

Census  
REF  
HD  
1715  
152  
152x  
187a  
17

REFERENCE COPY

1987

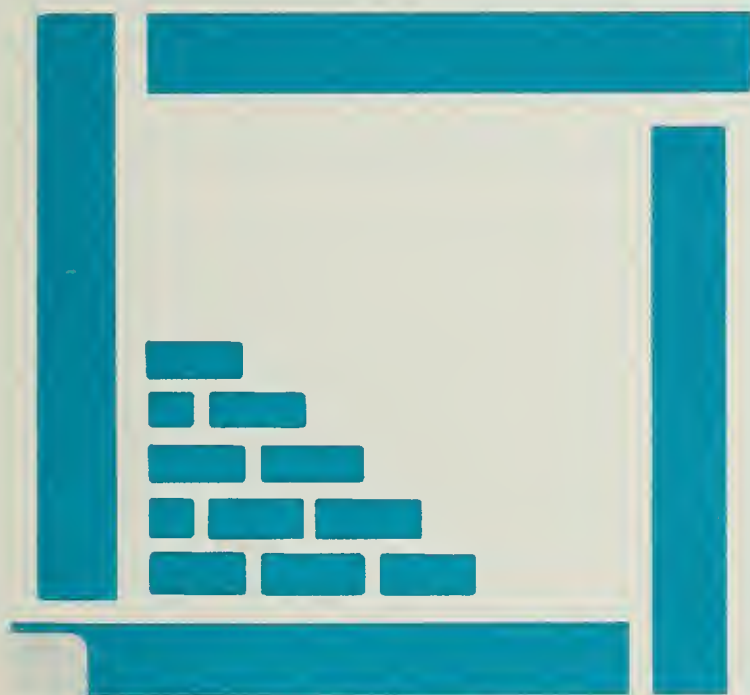
# Census of Construction Industries

CC87-I-17

INDUSTRY SERIES

**Floor Laying and  
Other Floor Work  
Special Trade Contractors,  
Not Elsewhere Classified**

Industry 1752



ence

in this room

U.S. Department of Commerce  
BUREAU OF THE CENSUS

Bureau of the Census  
Library

# ACKNOWLEDGMENTS

Many persons participated in the various activities of the 1987 Census of Construction Industries.

The overall planning and review of the census operations were performed by the staff of the Office of the Assistant Director for Economic and Agriculture Censuses.

This report was prepared in the Construction Statistics Division. **Barry A. Rappaport**, Assistant Division Chief for Industry Surveys, was responsible for the overall planning, management, and coordination of the census of construction industries. Planning and implementation were under the direction of **A. William Visnansky**, Chief, Census Operations Branch, with primary staff assistance by **Juliana Van Berkum**, **Barbara J. Hadden**, **Edward R. Glover**, **Susan L. Hostetter**, **Shirley M. Baker**, and **Carolyn J. Stone**. Under the direction of **Jesse Pollock**, **Edward K. Ricketts** and **Dennis K. Duke** developed the sampling plans and variance and estimation specifications.

Systems and procedures for mailout, receipt, correspondence, data input, industry classification, other clerical processing, administrative record processing, and quality control, along with the associated electronic computer programs, were developed in the Economic Surveys Division, **W. Joel Richardson**, Chief.

Mailout preparation and receipt operations, clerical and analytical review activities, data keying, and geocoding review were performed by the staff of the Data Preparation Division, **Joseph S. Harris**, Chief.

Geographic coding procedures and associated computer programs were developed by the staff of the Geography Division, **Robert W. Marx**, Chief.

The computer processing systems were developed and coordinated in the Economic Programming Division, **Barry M. Cohen**, Chief, and **H. Ray Dennis**, Assistant Chief. **Sarah W. Baumgardner**, Chief, Construction Census Branch, was responsible for the design and implementation of the computer systems. The computer programs were prepared under the supervision of **Barbara L. Lambert**, assisted by **Herbert Isham** of the Construction Statistics Division. **Linda M. Mersh** and **James Dallmann** assisted in establishing and maintaining the production control system.

Computer processing was performed in the Computer Services Division, **Marvin D. Raines**, Chief.

Planning, design, review, and composition of report forms were performed in the Administrative Services Division, **Michael G. Garland**, Chief.

The staff of the Publications Services Division, **Walter C. Odom**, Chief, performed publication planning, design, composition, editorial review, and printing planning and procurement. **Bernadette J. Beasley** provided publication coordination and editing.

Special acknowledgment is also due the many businesses whose cooperation has contributed to the publication of these data.

If you have any questions concerning the statistics in this report, call (301) 763-7546.

# **1987**

## **Census of Construction Industries**

---

CC87-I-17

INDUSTRY SERIES

### **Floor Laying and Other Floor Work Special Trade Contractors, Not Elsewhere Classified**

Industry 1752

---

Issued January 1990



**U.S. Department of Commerce**  
**Robert A. Mosbacher**, Secretary  
**Thomas J. Murrin**, Deputy Secretary  
**Michael R. Darby**, Under Secretary  
for Economic Affairs

**BUREAU OF THE CENSUS**  
**Barbara Everitt Bryant**, Director

---



**BUREAU OF THE CENSUS**  
**Barbara Everitt Bryant**, Director  
**C. L. Kincannon**, Deputy Director

**Charles A. Waite**, Associate Director for  
Economic Programs  
**Roger H. Bugenhagen**, Assistant Director for  
Economic and Agriculture Censuses

**Thomas L. Mesenbourg**, Chief,  
Economic Census Staff

**CONSTRUCTION STATISTICS DIVISION**  
**Leonora M. Gross**, Chief

---

**Library of Congress Cataloging-in-Publication Data**

Census of construction industries (1987).

Industry series.

1987 census of construction industries.

Industry series.

"CC87-I-1—CC87-I-28."

"Issued September 1989—February 1990."

1. Construction industry—United States—Statistics.

2. Building trades—United States—Statistics.

I. United States. Bureau of the Census.

HD9715.U52C46 1989 338.4'7624'0973021 88-22147

---

For sale by Superintendent of Documents, U.S. Government  
Printing Office, Washington, DC 20402.



# INTRODUCTION

	Page
PURPOSE AND USES OF THE ECONOMIC CENSUSES.....	III
AUTHORITY AND SCOPE .....	III
AVAILABILITY OF THE DATA .....	III
WHAT'S NEW IN 1987 .....	III
HISTORICAL INFORMATION .....	IV
AVAILABILITY OF MORE FREQUENT ECONOMIC DATA .....	IV
SOURCES FOR MORE INFORMATION .....	IV
CENSUS OF CONSTRUCTION INDUSTRIES—SCOPE AND CLASSIFICATION.....	IV
ESTABLISHMENT BASIS OF REPORTING.....	V
SAMPLE DESIGN, ESTIMATION PROCEDURES, AND RELIABILITY OF ESTIMATES .....	VI
CENSUS REPORT FORMS .....	VIII
DATA PROCESSING.....	VIII
GEOGRAPHIC CLASSIFICATION .....	VIII
DUPLICATION IN VALUE OF CONSTRUCTION WORK .....	VIII
SPECIAL TABULATIONS.....	VIII
COMPARABILITY OF CENSUS OF CONSTRUCTION INDUSTRIES DATA WITH OTHER DATA .....	IX
ABBREVIATIONS AND SYMBOLS .....	IX

## PURPOSE AND USES OF THE ECONOMIC CENSUSES

The economic censuses are the major source of facts about the structure and functioning of the Nation's economy. They provide essential information for government, business, industry, and the general public.

*Economic censuses furnish an important part of the framework for such composite measures as the gross national product, input-output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions.*

*Policy-making agencies of the Federal Government use the data, especially in monitoring economic activity and providing assistance to business.*

*State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.*

*Trade associations study trends in their own and competing industries, and keep their members informed of market changes.*

*Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.*

## AUTHORITY AND SCOPE

Title 13 of the United States Code (sections 131, 191, and 224) directs the Census Bureau to take the economic censuses every 5 years, covering years ending in 2 and 7. The 1987 Economic Censuses consist of the—

- Census of Retail Trade
- Census of Wholesale Trade
- Census of Service Industries
- Census of Transportation
- Census of Manufactures
- Census of Mineral Industries
- Census of Construction Industries

Special programs also cover enterprise statistics and minority-owned and women-owned businesses. (The 1987 Census of Agriculture and 1987 Census of Governments are conducted separately.) The next economic censuses are scheduled to be taken in 1993 covering the year 1992.

## AVAILABILITY OF THE DATA

The results of each of the economic censuses are available in printed reports, for sale by the U.S. Government Printing Office, and on microfiche, computer tape, compact discs with read-only memory, and flexible diskettes, for sale by the Census Bureau. Order forms for all types of products are available on request from Customer Services, Census Bureau, Washington, DC 20233. A more complete description of publications being issued from this census is on the inside back cover of this document.

Census facts are also widely disseminated by trade associations, business journals, and newspapers. Volumes containing census statistics are available in most major public and college libraries. Finally, State Data Centers in every State and Business and Industry Data Centers in many States also supply economic census statistics.

## WHAT'S NEW IN 1987

Several changes have taken place for the 1987 censuses. Data will be reported on the basis of the newly revised Standard Industrial Classification (SIC) system with selected reports including "bridge tables," linking the old and new classification systems. A new set of metropolitan



areas has been adopted, and more detailed information will be available for businesses with no paid employees. For additional information on these changes, review the subsequent text.

One important change involves receipts of contractors and builders. Prior to 1987, the Census of Construction Industries collected receipts as the primary measure of construction activity. For 1987, the census collected the "value of construction work done" to better measure actual construction activity done during the year. Differences between the two concepts occur when work is done in one year and payment received either from the prior or in the succeeding year. In addition, receipts do not include work a contractor performs for its own account and use.

## **HISTORICAL INFORMATION**

The economic censuses have been taken together as an integrated program at 5-year intervals since 1967, and before that for 1963, 1958, and 1954. Prior to that time, the individual censuses were taken separately at varying intervals.

The economic censuses trace their beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for 1840 and subsequent censuses to include mining and some commercial activities. In 1902, Congress established a permanent Census Bureau and directed that a census of manufactures be taken every 5 years. The 1905 manufactures census was the first time a census was taken apart from the regular every-10-year population census.

The first census of business was taken in 1930, covering 1929. Initially it covered retail and wholesale trade, and construction industries, but it was broadened in 1933 to include some of the service trades.

The 1954 economic censuses were the first to be fully integrated—providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. These were the first censuses to be taken by mail, using lists of firms provided by the administrative records of other federal agencies. Since 1963, administrative records have also been used to provide basic statistics as well for very small firms, reducing or eliminating the need to send them census questionnaires. The Enterprise Statistics Program, which publishes combined data from the economic censuses, was made possible with the implementation of the integrated census program in 1954.

The range of industries covered in the economic censuses has continued to expand. The Census of Construction Industries began on a regular basis in 1967, and the scope of service industries was broadened in 1967, 1977, and 1987. The Census of Transportation began in 1963 as a set of surveys covering travel, transportation of commodities, and trucks. New for 1987 are publications reporting on business establishments engaged in several transportation industries, paralleling the data on establishments in

other sectors. This is part of a gradual expansion in coverage of industries previously subjected to government regulation. The Survey of Minority-Owned Business Enterprises was first conducted as a special project in 1969 and was incorporated into the economic censuses in 1972 along with the Survey of Women-Owned Businesses.

Economic censuses have also been taken in Puerto Rico since 1909, in the Virgin Islands and Guam since 1958, and in the Northern Mariana Islands since 1982.

Statistical reports from the 1982 and earlier censuses provide historical figures for the study of long-term time series, and are available in some large libraries. All of the census data published since 1967 are still available for sale on microfiche from the Census Bureau.

## **AVAILABILITY OF MORE FREQUENT ECONOMIC DATA**

While the censuses provide complete enumerations every 5 years, there are many needs for more frequent data as well. The Census Bureau conducts a number of monthly, quarterly, and annual surveys, the results of which appear in publication series such as *Current Construction Reports* (building permits, housing starts, and value of new construction put in place), *Current Business Reports* (retail and wholesale trade and service industries), the *Annual Survey of Manufactures*, *Current Industrial Reports*, and the *Quarterly Financial Report*. Most of these surveys, while providing more frequent observations, yield less kind-of-business and geographic detail than the censuses. The *County Business Patterns* program offers annual statistics on the number of establishments, employment, and payroll classified by industry within each county.

## **SOURCES FOR MORE INFORMATION**

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1987 Economic Censuses and Related Statistics*. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1987 Economic Censuses*. Contact Customer Services for information on availability.

## **CENSUS OF CONSTRUCTION INDUSTRIES—SCOPE AND CLASSIFICATION**

The 1987 Census of Construction Industries covers all employer establishments (establishments with payroll) primarily engaged in contract construction, construction on their own account for sale, or in subdividing real property



into lots as defined in the 1987 Standard Industrial Classification (SIC) Manual.<sup>1</sup> This industrial classification system has been developed by experts on classification in government and private industry under the guidance of the Office of Management and Budget and is in general use among government agencies and among organizations outside the government.

**Contract construction**—The SIC manual defines construction in three broad types of activity that follow:

1. **Building construction by general contractors or by operative builders**—General building contractors are primarily engaged in the construction of dwellings, office buildings, stores, farm buildings, and other building projects. Operative builders who build on their own account for sale are also included here. However, investment builders who build structures on their own account for rent are classified in Real Estate.
2. **Heavy construction general contractors**—Heavy construction general contractors are primarily engaged in the construction of highways, bridges, pipelines, sewers and water lines, marine construction, power, and petro-chemical plants and other nonbuilding construction projects. Special trade contractors are classified in heavy construction if they are specifically engaged in the following activities: grading for highway and airport runways; guardrail construction; installation of highway signs; asphalt and concrete construction of roads, highways, streets and public sidewalks; trenching, cable laying; conduit construction; underwater rock removal; pipeline wrapping; or land clearing and leveling.
3. **Construction by other special trade contractors**—These contractors include plumbers, painters, carpenters, electricians, brick layers, roofers, etc. For the most part, they perform their work at the site of construction, although they may also have shops where they perform work incidental to the job site.

General contractors in both the building and the heavy construction field usually assume responsibility for an entire construction project, but may subcontract to others all of the actual construction work or those portions of the project requiring special skills or equipment. Special trade contractors may work for general contractors, for other subcontractors, or may work directly for the owner of the property.

In addition to the industries classified in the SIC manual as Construction, this census also includes one industry

classified in the Real Estate area, SIC 6552, Land Subdividers and Developers, Except Cemeteries. These establishments are engaged in subdividing real property into lots and in developing it for sale on their own account.

Each establishment receiving a questionnaire was requested to report the percent of total dollar value of business done for each kind-of-business activity engaged in during 1987. This information was used for the computer assignment of appropriate industry classifications. During this work, various tests were also made using other data reported on the questionnaire. The proportion of construction work to total business was checked to verify that the establishment was primarily in construction. Also taken into consideration were the types of structures worked on during the year and the extent of work undertaken for other contractors.

Construction establishments often engage in various construction activities. It is necessary, however, to assign a single industry code to the establishment based on its major activity. Therefore, the statistics shown for an industry reflect not only the primary activity of the establishments in the industry, but also their secondary activities. The industry reports, however, do present data on the extent of secondary activities.

A revised edition of the SIC Manual was issued in 1987. Minor modifications were made to three industries in the construction sector: SIC 1611, Highway and Street Construction Contractors, Except Elevated Highways; SIC 1629, Heavy Construction Contractors, N.E.C.; and SIC 1771, Concrete Work Special Trade Contractors. The extent of these modifications are explained in the specific texts for those industries. "Bridge tables" are also included showing selected data tabulated using both the previous classification system and the 1987 revision.

## ESTABLISHMENT BASIS OF REPORTING

The census of construction industries is conducted on an establishment basis. A "construction establishment" is defined as a relatively permanent office or other place of business where the usual business activities related to construction are conducted. With some exceptions, a relatively permanent office is one which has been established for the management of more than one project or job and which is expected to be maintained on a continuing basis. Such "establishment" activities include, but are not limited to estimating, bidding, purchasing, supervising, and operation of the actual construction work being conducted at one or more construction sites. Separate construction reports were not required for each project or construction site.

Companies with more than one construction establishment were required to submit a separate report for each such establishment operated during all or any part of 1987. The census of construction industries figures represent a summary of records for individual establishments rather than for companies. The census tabulations, therefore, differ from those prepared on a company basis.

<sup>1</sup>Standard Industrial Classification Manual: 1987. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.



If an establishment engaged in construction and one or more distinctly different lines of economic activity (wholesale or retail trade, service, manufacturing, mining, etc.) at the same place of business, it was requested to file a separate report appropriate to each activity, provided that the activity was of substantial size and separate records were maintained or substantially accurate estimates could be prepared.

If a separate establishment report could not be prepared for each activity, then a construction report was requested covering all activities of that establishment providing that the 1987 value of construction work exceeded the gross receipts from each of its other activities.

Construction businesses with no payroll during 1987 (nonemployers) were not required to file census reports. Tabulation of data for these businesses are based on administrative records and are shown only in U.S. summary publications and the geographic area reports series. Refer to the section on "Sample Design" for details. Foreign construction activities were not included in this census.

## **SAMPLE DESIGN, ESTIMATION PROCEDURES, AND RELIABILITY OF ESTIMATES**

The companies included in the 1987 Census of Construction Industries were identified as part of an operation common to all 1987 Economic Censuses. Construction companies were divided into employers (companies with payroll) and nonemployers (companies without payroll). Statistical information for the employers was obtained in the census by a survey which included all medium size and large employers and a sample of the smaller ones. Census reports were not required from the nonemployers. Statistics on them were obtained from administrative records of other agencies of the Federal Government.

### **Employer Companies**

**Developing the sampling frame for employer companies**—This operation started with obtaining a list of all construction companies in the active records of the Internal Revenue Service (IRS) which were subject to payment of Federal Insurance Contributions Act taxes. The basic source for this list has been the Internal Revenue Service Business Master File, a comprehensive list of companies engaged in business activities in the United States. The file contains the name, address, and form of ownership of each company and also indicates whether or not the company is subject to the FICA. Each company in this file is assigned a unique employer identification (EI) number which it uses in filing its various reports with the IRS. The Social Security Administration (SSA) maintains a similar list using the same identification numbers, which also contains information on the industrial classification of each company. The Bureau of the Census obtained both of these lists and combined them.

Under special arrangements which safeguarded the confidentiality of the information, the Bureau also obtained administrative records data on payrolls and receipts and added these data to the combined list. The list, thus created from the IRS-SSA information, was a list of employer companies. However, for the 1987 Economic Censuses the basic reporting unit is the "establishment." Therefore, steps were taken to identify the individual establishments of those companies which operate more than one place of business. The information for making this determination was obtained by means of the Company Organization Survey (COS), an annual canvass of all known multiestablishment companies and large single-establishment companies. Thus, the 1987 Economic Census list for single-establishment employer companies was obtained from the IRS-SSA, but the list of establishments of multiestablishment employer companies was obtained directly from those companies in the COS. Refer to the section on "Establishment Basis for Reporting" for details.

In general, the IRS-SSA list provided sufficient industrial classification data to assign a company to the proper economic census, but there were a number of companies for which this information was inadequate or unavailable. A special form, NC-9923, General Schedule, was mailed to all such companies, requesting information on the nature of the company's activities. From the information reported, the company was given an industrial classification code and assigned to the appropriate economic census. Since construction companies found in this way were identified only after the regular census mailing had taken place, they were treated as a supplement to the basic list.

**Selecting the employer sample**—The sample was designed to provide reliable State and metropolitan area estimates for each construction industry. It consisted of all construction establishments in multiestablishment companies, all single-establishment companies with estimated total employment of 20 employees or more, and a probability sample of single-establishment companies with estimated employment of fewer than 20 employees.

Supplementing the sample were construction companies identified from the NC-9923, General Schedule. Also affecting the sample were the misclassified companies; i.e., companies included in the samples of other trade areas which reported they were construction companies and companies originally classified in construction which reported they were not construction companies.

Of the 533,000 single-establishment employer companies initially classified as construction companies, 147,000 were included in the sample. All of the 13,000 establishments of multiestablishment companies were included in the sample. There was a net increase in the sample of 60,000 establishments resulting from establishments originally unclassified (receiving the NC-9923) or misclassified.

The probability sample of the smaller single-establishment companies was a stratified random sample. Strata were formed from all establishments with the same initial four-digit SIC code, in the same State, in the same metropolitan



area or in the balance of the State, and in the same size class based on estimated total employment. If the four-digit SIC code for an establishment was incomplete, the establishment was placed in a stratum for miscellaneous companies. Because they were small, all companies were included in the sample for the following three industries: SIC 1622, Bridge, Tunnel, and Elevated Highway Construction Contractors; SIC 1795, Wrecking and Demolition Work Special Trade Contractors; and SIC 1796, Installation or Erection of Building Equipment Special Trade Contractors.

#### Estimation procedures for 1987 and 1982 data—

Since all larger employer companies and some smaller ones were included in the census, sample estimation was required only for the universe of companies not selected with certainty. The published statistics are the totals of the estimates for the sampled companies and the aggregates for the certainty companies. All estimates for 1987 and 1982 published here are simple unbiased estimates of the form:

$$x'_c = \frac{\sum_{i=1}^{n_c} x_i}{n_c}$$

where:  $x'_c$  is the simple unbiased estimate of a characteristic for a publication cell.

$x_i$  is the reported value of a characteristic for an individual establishment in the publication cell.

$p_i$  is the selection probability of that firm.

$n_c$  is the number of firms in the sample for the cell.

Data for certain characteristics were reported as a percentage of the dollar value of business done. Before this formula was applied to those characteristics, it was necessary to convert the reported percentages into dollars.

**Reliability of employer statistics**—Since the estimates for employer establishments in these reports are based on the samples, they are subject to sampling variability and may be expected to differ from results which would have been obtained if a complete census had been taken using the same forms and procedures. The sampling errors shown in the tables were estimated directly from the sample reports, using methods appropriate for the sample design and form of estimation used.

The relative standard error is a measure of sampling variability, i.e., the variation that might occur by chance because only a sample of the population is surveyed. As calculated for this report, the relative standard error also partially reflects the effect of random errors of response and processing, but it does not take into account the effect of any consistent biases due to those types of errors. The chances are about 68 out of 100 that an estimate from the

sample would differ from a complete census by less than the relative standard error. The chances are about 95 out of 100 that the difference is less than twice the relative standard error and about 99 out of 100 that it is less than 2-1/2 times the relative standard error. Individual estimates with large relative standard errors have been shown in the published tables. Any such estimates should be used with caution. The very large relative standard errors generally occur for the smaller estimates.

Relative standard errors have been calculated for all of the published statistics, although they are shown for each statistic only in the tables presenting detailed statistics. Other tables show relative standard errors only for certain characteristics because of lack of space.

As calculated for this report, the relative standard error measures certain nonsampling errors, but does not measure any systematic biases in the data. Bias is the difference, averaged over all possible samples with the same size and design, between the estimates and the true value being estimated. Nonsampling errors can be attributed to many sources: inability to obtain information about all cases in the sample; definitional difficulties; differences in interpretation of questions; inability or unwillingness of respondents to provide correct information; and errors made in processing the data. Although no direct measurements of the biases have been obtained, it is believed that most of the important response and operational errors were detected in the course of reviewing the data for reasonableness and consistency.

A potential source of bias is in the imputation for those establishments that have not responded by the time of final publication. Data were estimated for establishments that did not report by that date, although selected establishments were contacted again to obtain as much information on the telephone as possible. Some publication cells in which more than 40 percent of the data were not reported have been suppressed.

## Nonemployer Companies

As described earlier, the information derived from the business income tax returns of all companies was matched to the census employer file on the basis of common identification numbers. Those business income tax returns which could not be matched, were further classified on the basis of several characteristics. Returns with characteristics consistent with companies without payroll were treated as nonemployers. The nonemployer construction companies were not required to file census reports.

For "number of establishments," each separate income tax return was assumed to be an establishment. "All business receipts" was based on receipts information reported on the tax return.

Since no sampling was involved in the nonemployer establishments, the statistics for nonemployers are not subject to sampling variability. However, these data are subject to an unknown amount of reporting and processing errors which could not be detected by the Census Bureau.



## CENSUS REPORT FORMS

Information for the 1987 Census of Construction Industries was obtained from employer establishments primarily through the use of twenty-four questionnaires, determined by industry classification and size. Standard forms and short forms were developed for each of the following SIC groups: 15, 16, 171, 172, 173, 174, 175, 176, 177, 178, and 179 and for the establishments classified in SIC 6552. Establishments with 50 or more employees all received the standard form. A sub-sample of establishments with fewer than 50 employees received short forms instead of the standard forms. The short forms covered only major items and omitted some of the detail found in the longer forms.

In reviewing and developing the questionnaires, comments and recommendations were elicited from construction trade associations and appropriate advisory groups. The Bureau surveyed several thousand firms representing all economic activities to gain insight into the way companies maintain records and to see whether new information could be collected.

## DATA PROCESSING

The 1987 census report forms were mailed out in December 1987. They were mailed from and returned to the Census Bureau's Data Preparation Division in Jeffersonville, Ind., where routine editing and coding of the report forms were also accomplished. Collection of these report forms was essentially completed in July 1988.

The returned reports underwent extensive processing. A preliminary edit done at the time of data entry identified obviously deficient reports and reports needing clarification. When necessary, these problems were resolved by further contact with the respondents. Next, the data were transmitted to Census Bureau headquarters near Washington, DC.

Data records, then, underwent a detailed computer review and analysis. The records containing significant problems were referred for further analytical review and, if necessary, contacts were made with the respondents. The computer performed most classification coding (such as industry coding, geographic coding, and size coding), and imputation for missing items or for reports not received in time for tabulation. The imputation was performed on an industry (or industry group)-State (or geographic group) basis using all available response and administrative data.

The data records were then tabulated on an industry basis. Industry totals were subjected to analytical review, and selected statistics were prepared for the preliminary reports. Corrections resulting from this review were made to the computer records and final tabulations were produced.

The review of a preliminary report for an industry often uncovered the need for corrections or revisions to the data for another industry for which a preliminary report had already been published. The final reports incorporate all

revisions and corrections made during the review of the preliminary reports and contain considerable more data than were published in those reports.

## GEOGRAPHIC CLASSIFICATION

Information for the 1987 Census of Construction Industries' final industry report series is classified on the basis of two types of geographic distributions: (1) physical location of the establishment, and (2) location of construction work. A separate code was assigned on each basis allowing us to present data by both physical locations of the establishment and location of construction work.

The geographic area reports series presents similar data by industry for each State (physical location of the establishment) and for selected MSA's, CMSA's and PMSA's.

## DUPLICATION IN VALUE OF CONSTRUCTION WORK

The aggregate of value of construction work reported by all construction establishments in each of the several industry, geographic area, or other groupings in this census, contains varying amounts of duplication, since the construction work of one firm may be subcontracted to other construction firms and also be included in the subcontractors' value of construction work. To avoid this duplication, a "net" value of construction work figure has been derived for each establishment by subtracting the costs for construction work subcontracted to others from the value of construction work.

Duplication in value of business between other construction and nonconstruction industries, results from the use of products of these other industries as input materials by construction establishments. "Value added," avoids this duplication and is, for most purposes, the best measure for comparing the relative economic importance of industries or areas. "Value added," is defined in the 1987 Census of Construction Industries as equal to dollar value of business done less costs for construction work subcontracted to others and payments for materials, components, supplies, and fuels. However, for SIC 6552 and SIC 1531 where land receipts are significant, land receipts are also subtracted from dollar value of business done.

## SPECIAL TABULATIONS

Special tabulations of data collected in the 1987 Census of Construction Industries may be obtained on computer tape or in tabular form. The data will be in summary form and subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) as are the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact and detailed specifications of the type and format of the data to be provided, should be directed to the Chief, Construction Statistics Division, Bureau of the Census, Washington, DC, 20233.



To discuss a special tabulation before submitting specifications, call 301-763-7546.

## COMPARABILITY OF CENSUS OF CONSTRUCTION INDUSTRIES DATA WITH OTHER DATA

Data contained in the reports of the 1987 Census of Construction Industries are not the same as the data published in the Census Bureau's monthly Construction Reports, Series C30, Value of New Construction Put in Place. The main difference is that the C30 series covers all new construction put in place without regard to who is performing the construction activity, whereas the construction census figures cover both new construction and maintenance and repair work done by establishments classified in the construction industry. Significant amounts of construction are done by establishments classified outside of construction (in real estate, manufacturing, utilities and communications, for example), both as "force account" construction and construction done for others. In addition, the value in place series includes construction-related expenses such as architectural and engineering costs and the costs of materials supplied by owners which are normally not reflected in the Census of Construction.

Data contained in the reports of the census of construction industries may also differ from industry data in "Employment and Earnings Statistics," published by the Bureau of Labor Statistics, and "Statistics of Income," published by the Internal Revenue Service. These differences arise from varying definitions of scope, coverage, timing, classification, and methodology.

## ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in this publication:

*	Sampling error exceeds 40 percent.
**	Represents the sum of all employees during pay periods including 12th of March, May, August, and November, divided by 4.
-	Represents zero.
†	Represents value of construction work less costs for construction work subcontracted to others. (See Duplication in Value of Construction Work.)
††	Represents dollar value of business done less costs for construction work subcontracted to others, and costs for materials, components, supplies, and fuels. In SIC's 1531 and 6552, land receipts are also subtracted from dollar value of business done. (See Duplication in Value of Construction Work.)
(D)	Withheld to avoid disclosing data for individual companies; data are included in higher level totals.
(NA)	Not available.
(S)	Withheld because estimate did not meet publication standards on the basis of either the response rate, associated relative standard error, or a consistency review.
(W)	Greater than zero but less than 1 percent.
(X)	Not applicable.
n.s.k.	Not specified by kind.

# Users' Guide for Locating Statistics in This Report by Table Number

Statistics	For U.S.	By State	By employment size	By size class of dollar value of business done	By type, class, ownership, kind of business, and location of construction <sup>1</sup>	By specialization in types of construction
Assets and depreciation (gross book value):						
Beginning of year—buildings, machinery and equipment.....	3					
End of year—total.....	1, 3	1	5	6		
End of year—buildings, machinery and equipment.....	3					
Depreciation charges during year—buildings, machinery and equipment.....	3					
Capital expenditures:						
Total capital expenditures.....	1, 3	1	5	6		
New buildings—machinery and equipment.....	3					
Used buildings—machinery and equipment.....	3					
Communication services, costs for.....	2					
Employees:						
All employees—average number.....	1, 2	1	5	6		8
Construction workers—average number.....	1, 2, 9	1, 9				
Other employees—average number.....	2					
Employer costs for fringe benefits—legally required and voluntary expenditures.....	2					
Establishments—number in business during year.....	1, 2, 4, 9	1, 9	5	6		8
Hours—construction workers:						
Total.....	1, 2, 9	1, 9	5	6		
Quarterly.....	2, 9	9				
Inventories.....	4					
Materials, components, supplies, and fuels—costs for.....	1, 2	1	5	6		
Payroll:						
First quarter, all employees.....	2					
Annual:						
All employees.....	1, 2	1	5	6		8
Construction workers.....	1, 2	1				
Other employees.....	2					
Power, fuels, and lubricants—costs for.....	2					
Proprietors and working partners.....	2					
Ratios, State.....	13	13				
Value and receipts:						
Dollar value of business done, total.....	2		5	6	11	
Value of construction work, total.....	1, 2, 4	1	5	6	2, 7, 10	8
For work subcontracted in from others.....	2					
Other business receipts and land receipts <sup>2</sup> .....	2					
Net value of construction work.....	1, 2	1	5	6		8
Value added.....	1, 2	1	5	6		8
Rental costs:						
Total.....	1, 2	1	5	6		
For machinery and equipment.....	2					
For buildings.....	2					
Repairs to buildings and other structures.....	2					
Repairs to machinery and equipment.....	2					
Selected industry ratios.....	12					
Subcontract work to others, costs for.....	1, 2	1	5	6		8

Note: Data for 1982 and earlier years are also available in some of these tables.

<sup>1</sup>Type—buildings, roads, etc. Class—new construction; additions, alterations, or reconstruction; or maintenance and repair work. Ownership—private or government owned.

<sup>2</sup>Land receipts are shown separately for SIC's 1531 and 6552 only.



# CONTENTS

## Floor Laying and Other Floor Work Special Trade Contractors Not Elsewhere Classified

[Page numbers listed here omit the prefix that appears as part of the number of each page]

	Page
Introduction .....	III
Users' Guide for Locating Statistics in This Report by Table Number .....	X
Summary of Findings .....	2

### FIGURES

1. Value of Construction Work by Type of Construction .....	3
2. Selected Costs Per Dollar Value of Business Done .....	3

### TABLES

#### Statistics for Establishments With Payroll

1. General Statistics by State: 1987 and 1982 .....	4
2. Detailed Statistics: 1987 and Earlier Census Years .....	6
3. Assets, Capital Expenditures, and Depreciation: 1987 and 1982 .....	7
4. Value of Inventories: 1987 and 1986 .....	8
5. Selected Statistics by Employment Size Class: 1987 and 1982 .....	8
6. Selected Statistics by Size Class of the Dollar Value of Business Done: 1987 and 1982 .....	9
7. Value of Construction Work by Type of Construction: 1987 and 1982 .....	10
8. Selected Statistics by Specialization in Types of Construction: 1987 .....	11
9. Quarterly Construction Worker Hours and Employment by State: 1987 .....	12
10. Value of Construction Work by Location of Construction Work: 1987 and 1982 .....	14
11. Dollar Value of Business Done by Kind of Business Activity: 1987 and 1982 .....	15
12. Selected Industry Ratios: 1987 and 1982 .....	16
13. Selected Industry Ratios by State: 1987 .....	17

Statistics for Establishments Without Payroll appear in the U.S. Industry Summary Report.

### APPENDIXES

A. Explanation of Terms .....	A-1
B. Standard Industrial Classification Titles for Industry Groups and Industries .....	B-1
C. Geographic Divisions and States .....	C-1

Publication Program .....	Inside back cover
---------------------------	-------------------

# SUMMARY OF FINDINGS

Establishments classified in this industry are primarily engaged in the laying, scraping, finishing, or refinishing of parquet and other hardwood flooring. This industry also includes contractors that install asphalt tile, carpeting, linoleum, and resilient flooring. For additional examples, refer to the 1987 Standard Industrial Classification (SIC) Manual published by the Office of Management and Budget, Executive Office of the President.

During 1987, the establishments with paid employees classified in this industry accounted for \$3.8 billion in total dollar value of business. Of this amount, \$3.7 billion were for the value of construction work. These establishments paid out \$1.5 billion for materials, components, and supplies and \$280 million for construction work subcontracted to others. Costs for selected power, fuels, and lubricants for this industry were \$63.1 million. Value added for 1987 was \$1.9 billion.

There were 8,174 establishments with total employment averaging 44,579 during the year. Total payroll for 1987 was \$906 million. Total hours worked by construction workers during the year were 55.2 million hours.

Larger establishments with 20 employees or more, while representing only 5 percent of the total number of employer establishments in this industry accounted for 42 percent of all business done.

A "construction establishment" is defined as a relatively permanent office, or other place of business, where the usual business activities related to construction are conducted. A separate census report was required from each sampled establishment covering domestic operations. Separate reports were not, however, required for each project or construction site.

In 1987, the value of construction work was collected to better measure actual construction activity done during the year. Construction receipts, as reported in earlier censuses, may have included the value of work done before or after the calendar year and may have excluded the value of work in progress during the calendar year. Receipts may have also excluded work done by builders engaged in construction for sale on their own account or for their own use. All dollar values are shown in current dollars for the years specified and have not been adjusted for inflation.

The data in this report are estimated from a sample survey and are subject to sampling variability as well as errors of response and nonreporting. The relative standard error shown in the tables is a measure of sampling variability. Descriptions of the sampling, estimating procedures, and data reliability are included in the Introduction.



Figure 1. **Value of Construction Work by Type of Construction**  
(Percent)

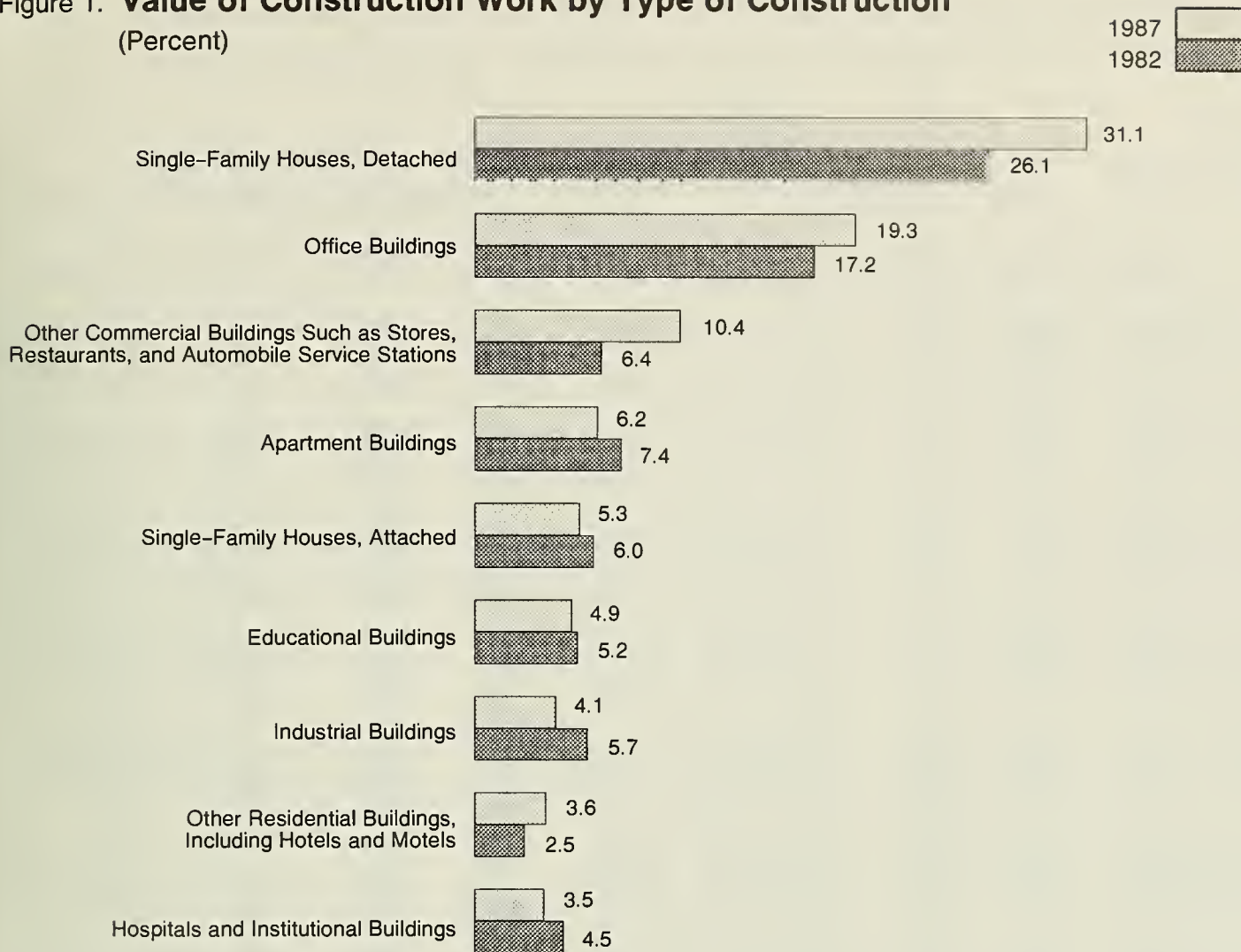
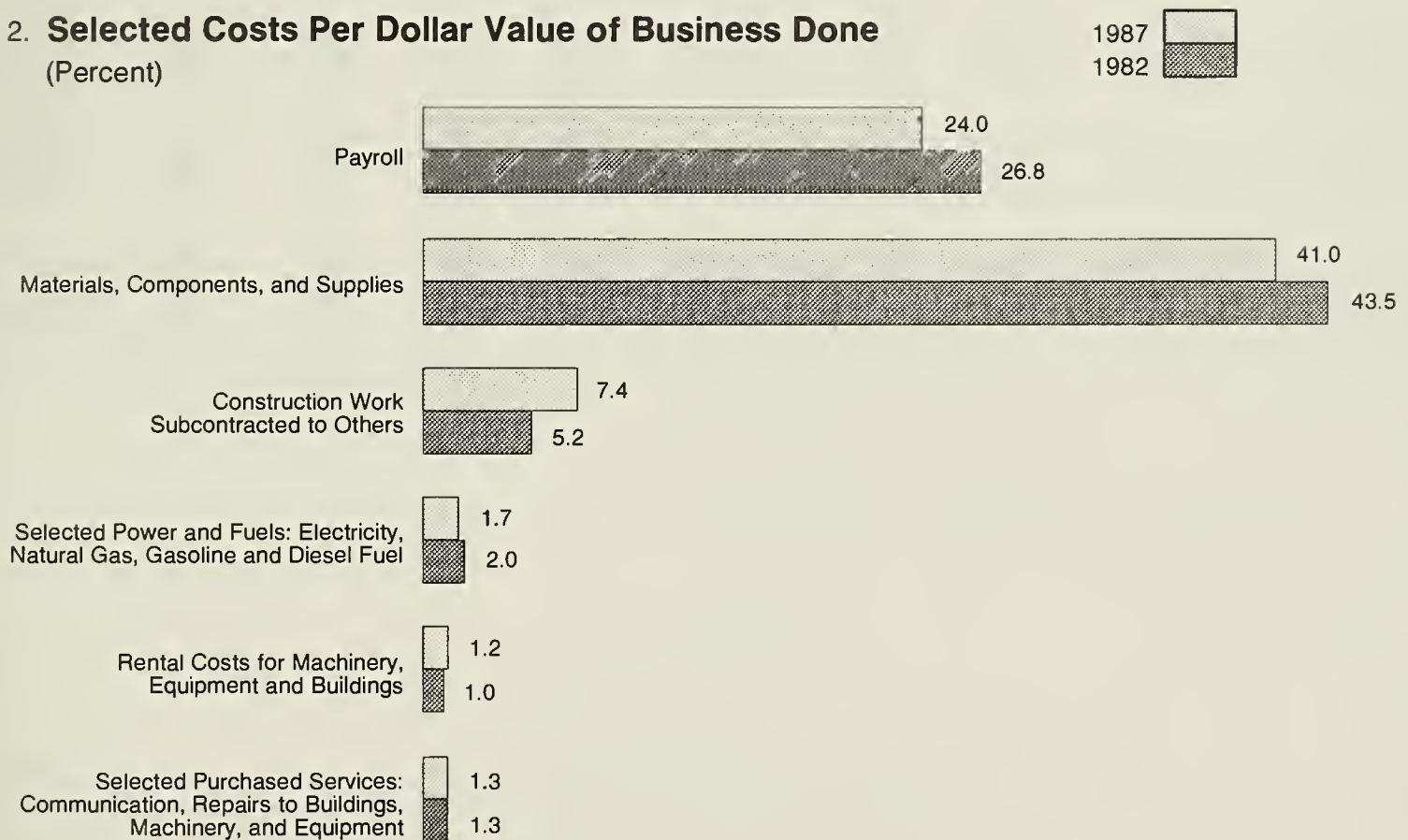


Figure 2. **Selected Costs Per Dollar Value of Business Done**  
(Percent)



**Table 1. General Statistics for Establishments With Payroll by State: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of establishment	1987							
	Number of establishments	Employees**		Payroll		Construction worker hours (thousands)	Value of construction work	Net value of construction work†
		All	Construction workers	All employees	Construction workers			
A	B	C	D	E	F	G	H	
United States .....	8 174	44 579	34 666	906 162	645 485	55 208	3 651 435	3 371 200
Alabama .....	118	(D)	(D)	(D)	(D)	572	33 172	30 498
Alaska .....	30	(S)	(S)	(S)	(S)	(S)	(S)	(S)
Arizona .....	109	685	519	14 049	10 506	742	63 918	59 889
Arkansas .....	50	152	121	1 877	1 459	187	6 248	5 754
California .....	1 066	6 615	5 096	157 708	110 432	8 043	623 028	576 974
Colorado .....	141	614	477	11 647	7 276	559	53 022	47 654
Connecticut .....	162	1 125	904	23 086	16 303	1 384	84 472	79 385
Delaware .....	*28	137	104	2 540	1 701	142	7 517	7 351
District of Columbia .....	11	93	68	1 829	1 107	129	(D)	(D)
Florida .....	279	1 336	1 042	24 451	17 961	1 676	109 423	100 556
Georgia .....	176	825	599	15 282	9 521	996	69 643	64 746
Hawaii .....	39	223	163	5 411	3 870	265	20 414	18 873
Idaho .....	22	*74	*58	863	642	*88	*5 549	*4 852
Illinois .....	324	2 597	1 959	63 167	43 757	3 577	234 677	219 044
Indiana .....	187	916	695	16 373	10 620	1 220	72 125	66 852
Iowa .....	74	191	152	2 605	1 691	136	11 905	11 399
Kansas .....	70	301	236	6 312	4 146	265	27 174	23 909
Kentucky .....	77	282	219	3 493	2 721	377	11 568	11 435
Louisiana .....	104	426	318	5 601	3 933	455	25 769	23 907
Maine .....	65	158	128	2 602	1 954	202	12 458	12 278
Maryland .....	214	1 893	1 448	41 422	28 350	2 427	169 199	154 939
Massachusetts .....	297	1 667	1 342	38 784	28 727	2 272	157 656	147 638
Michigan .....	170	1 018	757	23 317	16 129	1 488	88 361	79 673
Minnesota .....	120	908	711	20 065	15 315	1 164	69 881	67 571
Mississippi .....	57	(S)	(S)	(S)	(S)	(S)	(S)	(S)
Missouri .....	130	1 140	848	26 350	18 164	1 315	86 718	82 201
Montana .....	*32	(S)	(S)	(S)	(S)	(S)	(S)	(S)
Nebraska .....	63	217	145	4 066	2 966	246	17 496	15 693
Nevada .....	25	224	182	4 446	3 490	*303	14 668	14 356
New Hampshire .....	53	166	135	2 960	2 194	298	10 852	10 064
New Jersey .....	354	2 286	1 848	51 773	37 393	2 821	206 531	184 303
New Mexico .....	54	156	117	1 912	1 553	132	12 251	10 634
New York .....	600	3 602	2 847	82 134	58 005	4 627	304 169	282 632
North Carolina .....	248	774	628	10 713	8 869	1 095	46 571	43 176
North Dakota .....	*19	*133	*71	*1 772	*808	*124	*7 706	*7 113
Ohio .....	374	1 860	1 420	37 212	26 447	2 399	142 268	130 186
Oklahoma .....	41	223	167	3 721	2 783	258	13 327	12 045
Oregon .....	139	594	462	10 892	8 161	656	53 709	45 165
Pennsylvania .....	455	2 368	1 884	42 988	31 568	2 797	179 082	166 896
Rhode Island .....	37	140	113	3 358	2 247	178	16 202	15 958
South Carolina .....	106	404	294	5 041	3 360	439	21 529	20 242
South Dakota .....	*26	(S)	(S)	(S)	(S)	(S)	(S)	(S)
Tennessee .....	136	656	546	10 524	8 456	940	40 195	37 197
Texas .....	413	2 365	1 908	36 524	27 619	2 957	191 229	170 930
Utah .....	35	161	124	2 828	2 427	241	11 672	10 739
Vermont .....	*30	(D)	46	(D)	513	78	2 805	2 590
Virginia .....	333	2 074	1 613	38 114	27 122	2 567	153 528	143 018
Washington .....	267	1 045	818	18 748	13 583	1 051	74 921	69 503
West Virginia .....	*30	*100	*77	*1 075	*862	81	*6 172	*5 714
Wisconsin .....	168	742	603	14 505	10 484	929	50 740	48 868
Wyoming .....	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)

†In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.



1987—Con.						1982			Relative standard error of estimate (percent) for column—			Location of establishment
Value added††	Cost of materials, components, supplies, and fuels	Cost of construction work sub-contracted to others	Rental cost for machinery, equipment, and buildings	Capital expenditures, other than land	End-of-year gross book value of depreciable assets	All employees**	Total construction receipts†	Value added††				
I	J	K	L	M	N	O	P	Q	B	H	M	
1 880 303	1 611 426	280 234	45 168	41 437	286 154	32 349	1 793 756	913 316	2	1	5	U.S.
(D)	(D)	*2 673	203	*249	2 286	359	18 609	8 768	(D)	16	53	AL
(S)	(S)	(S)	(D)	(S)	(S)	130	11 827	4 312	(S)	(S)	(S)	AK
25 256	34 941	4 029	855	655	4 511	637	32 679	14 985	8	10	15	AZ
3 713	2 405	(S)	*39	(D)	131	106	4 236	2 217	22	19	(D)	AR
314 083	273 927	46 053	9 386	4 943	28 713	5 044	334 512	167 068	3	4	11	CA
24 450	23 797	5 368	858	797	3 324	825	44 431	20 986	10	7	34	CO
48 668	33 096	5 087	720	1 078	6 415	605	34 799	16 251	11	5	21	CT
4 220	*3 242	166	137	(S)	475	91	3 838	2 239	27	27	(S)	DE
2 781	2 073	(D)	41	(D)	747	(D)	(D)	1 914	7	(D)	(D)	DC
54 113	50 898	8 866	1 613	1 383	11 647	1 295	51 453	24 449	7	8	17	FL
33 805	33 267	4 896	664	784	*22 805	764	46 966	20 687	8	10	24	GA
10 516	10 159	*1 541	296	345	1 589	163	(D)	7 250	15	6	8	HI
*1 840	*3 100	*697	75	38	346	45	*5 563	*1 224	53	47	(W)	ID
128 879	97 364	15 633	3 154	1 956	14 013	1 633	98 428	52 863	5	4	20	IL
35 044	35 732	5 273	630	882	7 559	536	29 588	16 305	13	10	18	IN
8 244	4 037	505	(S)	*112	1 505	257	12 566	6 639	25	23	42	IA
11 141	13 673	*3 265	240	*223	1 027	410	27 442	13 472	17	19	50	KS
7 438	4 302	133	55	*503	1 843	278	10 464	6 038	22	23	63	KY
15 810	9 369	1 861	314	179	1 973	454	22 121	13 847	14	15	29	LA
7 682	5 694	180	97	(D)	553	78	*3 476	*1 846	13	15	(D)	ME
85 219	77 783	14 259	2 361	2 397	9 553	1 184	63 611	34 643	7	8	19	MD
83 572	66 601	10 018	1 980	2 056	13 901	948	66 026	33 771	6	6	17	MA
45 616	39 624	8 687	1 079	1 642	7 887	884	39 319	22 931	9	6	21	MI
43 781	25 353	2 310	507	608	4 386	633	25 786	15 233	7	5	34	MN
(S)	(S)	(S)	(S)	(S)	(S)	129	5 524	2 807	(S)	(S)	(S)	MS
48 736	38 492	4 516	886	681	5 103	785	39 500	21 097	5	6	14	MO
(S)	(D)	(S)	(S)	(S)	(S)	(D)	2 513	1 365	(S)	(S)	(S)	MT
7 765	8 658	1 803	287	*174	957	130	7 336	3 507	23	13	41	NE
8 136	6 417	*312	*195	*160	*1 628	118	9 405	4 845	35	37	54	NV
5 576	5 173	*787	*252	*261	732	74	3 529	1 946	19	31	74	NH
107 962	84 422	22 228	2 182	2 924	14 335	1 106	51 891	32 084	5	8	26	NJ
4 291	(D)	1 617	132	*70	(S)	171	6 686	3 649	27	34	54	NM
171 670	114 775	21 537	3 240	2 854	16 955	2 420	151 735	77 699	9	6	23	NY
22 317	24 157	3 395	450	*520	*6 913	733	26 853	14 385	10	12	57	NC
*3 125	*5 411	(S)	*132	(D)	*699	90	*4 706	2 580	60	64	(D)	ND
77 124	64 805	12 082	2 159	2 172	14 743	1 211	61 948	34 218	6	6	16	OH
6 641	5 835	1 282	141	*147	911	284	17 533	8 119	27	21	56	OK
26 435	21 520	*8 544	505	471	2 208	528	21 795	10 329	10	16	20	OR
94 272	79 634	12 186	1 717	2 033	20 132	1 402	76 517	38 330	6	6	25	PA
9 064	(D)	244	76	(D)	468	126	5 277	2 718	7	2	(D)	RI
11 325	9 104	1 286	295	151	2 134	357	16 087	7 596	25	19	28	SC
(S)	(S)	(S)	(S)	(S)	(D)	*26	*814	*350	(S)	(S)	(S)	SD
16 612	21 961	2 998	256	433	4 621	380	17 879	9 013	8	11	9	TN
86 407	89 373	20 299	3 209	1 390	14 544	2 217	140 297	63 598	6	7	39	TX
5 136	5 603	*932	180	*172	973	(S)	(S)	(S)	22	22	72	UT
1 440	1 150	215	(D)	(D)	315	(D)	*525	*327	(D)	3	(D)	VT
75 861	70 136	10 510	1 288	3 396	16 495	1 066	43 985	22 201	6	6	19	VA
37 435	34 243	5 417	1 308	980	6 003	756	43 873	23 178	13	10	22	WA
*2 748	*3 245	(S)	(S)	(S)	479	70	4 484	*2 593	48	50	(S)	WV
28 165	24 499	1 872	439	901	3 760	566	23 494	12 708	12	11	37	WI
(D)	(D)	(D)	(D)	(D)	(D)	(S)	(S)	(S)	(D)	(D)	(D)	WY

**Table 2. Detailed Statistics for Establishments With Payroll: 1987 and Earlier Census Years**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	1987	1982	1977	1972	Relative standard error of estimate (percent)			
					1987	1982	1977	1972
Number of establishments in business during year .....	8 174	6 673	8 969	9 052	2	2	3	3
Proprietors and working partners .....	2 862	3 213	6 107	6 637	4	3	4	4
All employees** .....	44 579	32 349	40 990	44 262	2	2	1	2
Construction workers:								
March .....	34 283	24 548	31 480	33 680	2	2	1	2
May .....	34 573	25 008	35 148	34 873	2	2	2	2
August .....	36 496	25 491	34 284	37 858	2	2	2	2
November .....	33 311	24 224	33 843	36 450	2	2	2	2
Average .....	34 666	25 410	33 724	36 402	2	2	1	2
Other employees:								
March .....	10 085	6 922	7 133	7 617	2	2	2	3
May .....	9 484	(NA)	(NA)	(NA)	2	(NA)	(NA)	(NA)
August .....	9 656	(NA)	(NA)	(NA)	2	(NA)	(NA)	(NA)
November .....	10 430	(NA)	(NA)	(NA)	2	(NA)	(NA)	(NA)
Average .....	9 914	(NA)	(NA)	(NA)	2	(NA)	(NA)	(NA)
Construction worker hours (thousands):								
January to March .....	13 053	8 890	(NA)	(NA)	2	2	(NA)	(NA)
April to June .....	13 753	9 423	(NA)	(NA)	2	2	(NA)	(NA)
July to September .....	14 684	9 685	(NA)	(NA)	2	2	(NA)	(NA)
October to December .....	13 716	9 400	(NA)	(NA)	2	2	(NA)	(NA)
Total hours worked .....	55 208	37 399	(NA)	(NA)	2	2	(NA)	(NA)
Payroll, all employees .....	906 162	496 824	453 107	367 077	1	1	1	2
Payroll, construction workers .....	645 485	364 231	352 246	291 384	1	2	1	2
Payroll, other employees .....	260 676	132 593	100 861	75 693	2	2	1	2
First quarter payroll, all employees .....	206 158	112 677	98 200	(NA)	2	2	1	(NA)
Employer costs for fringe benefits, all employees .....	186 806	87 259	79 774	(NA)	2	2	1	(NA)
Legally required expenditures .....	141 712	68 918	47 366	(NA)	2	2	1	(NA)
Voluntary expenditures .....	45 094	18 341	32 409	(NA)	2	2	1	(NA)
Dollar value of business done .....	3 771 964	1 854 075	1 673 903	1 209 945	2	2	1	2
Value of construction work <sup>1</sup> .....	3 651 435	1 793 756	1 616 932	1 175 846	2	2	1	2
Value of construction work subcontracted in from others .....	1 626 503	852 754	785 073	521 209	3	2	2	3
Land receipts <sup>2</sup> .....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Other business receipts .....	120 529	60 319	56 971	34 099	5	5	5	8
Net value of construction work† .....	3 371 200	1 697 628	1 547 860	1 132 194	1	2	1	2
Value added†† .....	1 880 303	913 316	823 659	649 375	1	2	1	2
Selected costs .....	1 891 661	940 758	850 244	560 570	2	2	2	3
Materials, components, and supplies <sup>3</sup> .....	1 548 341	806 949	749 792	516 918	2	2	2	3
Construction work subcontracted to others .....	280 234	96 128	69 072	43 652	5	3	3	6
Selected power, fuels, and lubricants .....	63 085	37 680	31 380	(NA)	2	3	3	(NA)
Electricity .....	11 249	6 210	4 122	(NA)	3	4	3	(NA)
Natural gas .....	2 204	1 886	2 070	(NA)	4	5	28	(NA)
Gasoline and diesel fuel .....	46 453	27 464	22 495	(NA)	2	3	2	(NA)
On highway use .....	43 785	(NA)	(NA)	(NA)	2	(NA)	(NA)	(NA)
Off highway use .....	2 667	(NA)	(NA)	(NA)	4	(NA)	(NA)	(NA)
Other, including lubricating oils and greases .....	3 178	2 119	2 694	(NA)	5	7	6	(NA)
Rental cost for machinery, equipment, and buildings .....	45 168	18 142	11 933	(NA)	3	3	3	(NA)
For machinery and equipment .....	7 544	3 628	3 049	1 735	5	5	6	7
For buildings .....	37 624	14 514	8 884	(NA)	4	4	3	(NA)
Selected purchased services .....	47 845	23 186	24 120	(NA)	2	3	3	(NA)
Communication services .....	27 021	13 143	12 042	(NA)	2	3	3	(NA)
Repairs to buildings and other structures .....	4 859	2 184	1 747	(NA)	6	6	4	(NA)
Repairs to machinery and equipment .....	15 963	7 858	10 332	(NA)	3	3	4	(NA)
Ownership of construction projects:								
Value of construction work <sup>1</sup> .....	3 651 435	1 793 756	1 616 932	1 175 846	2	2	1	2
Government owned .....	360 305	204 766	130 594	185 920	5	11	4	4
Federal .....	103 708	(NA)	(NA)	(NA)	7	(NA)	(NA)	(NA)
State and local .....	256 597	(NA)	(NA)	(NA)	6	(NA)	(NA)	(NA)
Privately owned .....	3 291 129	1 588 989	1 486 338	989 926	2	2	1	2

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

<sup>2</sup>Data were collected separately for establishments classified in SIC 1531, Operative Builders, and SIC 6552, Subdividers and Developers, Except Cemeteries. For all other industries, data are included in other business receipts.

<sup>3</sup>For 1972, includes data for power, fuels, and lubricants.



**Table 3. Assets, Capital Expenditures, and Depreciation for Establishments With Payroll: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	1987	1982	Relative standard error of estimate (percent)	
			1987	1982
<b>BUILDINGS AND OTHER STRUCTURES, MACHINERY, AND EQUIPMENT</b>				
Beginning-of-year gross book value of depreciable assets -----	253 237	157 034	6	3
Capital expenditures, other than land -----	41 437	19 248	5	5
New -----	34 385	14 609	5	6
Used -----	7 052	4 639	10	7
Retirements and disposition of depreciable assets -----	8 519	7 061	12	9
End-of-year gross book value of depreciable assets -----	286 154	169 222	6	3
Depreciation charges during year -----	34 555	22 982	5	3
<b>Buildings and other Structures, Additions, and Related Facilities</b>				
Beginning-of-year gross book value of depreciable assets -----	112 467	47 362	12	4
Capital expenditures, other than land -----	5 954	2 913	10	11
New buildings and other structures -----	4 175	2 204	11	14
Used buildings and other structures -----	1 779	708	13	13
Retirements and disposition of depreciable assets -----	2 293	1 972	31	23
End-of-year gross book value of depreciable assets -----	116 128	48 303	11	4
Depreciation charges during year -----	8 443	4 432	9	5
<b>Machinery and Equipment</b>				
Beginning-of-year gross book value of depreciable assets -----	140 769	109 671	4	3
Capital expenditures, other than land -----	35 482	16 335	5	5
New machinery and equipment, including automobiles and trucks -----	30 210	12 404	5	6
New automobiles and trucks, intended primarily for highway use -----	21 367	8 702	6	7
Used machinery and equipment, including automobiles and trucks -----	5 272	3 931	13	8
Retirements and disposition of depreciable assets -----	6 226	5 088	10	6
End-of-year gross book value of depreciable assets -----	170 026	120 918	4	2
Depreciation charges during year -----	26 112	18 550	5	3

**Table 4. Value of Inventories for Establishments With Payroll: 1987 and 1986**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Establishments with payroll	Relative standard error of estimate (percent)
All establishments:		
Number .....	8 174	2
Value of construction work .....	3 651 435	2
Establishments with inventories:		
Number .....	2 945	4
Value of construction work .....	2 165 622	3
Inventories <sup>1</sup> :		
End of 1987, materials and supplies .....	106 257	5
End of 1986, materials and supplies .....	102 668	5
Establishments with no inventories:		
Number .....	3 661	4
Value of construction work .....	614 512	6
Establishments not reporting:		
Number .....	1 568	6
Value of construction work .....	871 301	4

<sup>1</sup>Inventories at cost or market prior to any adjustment to correct to LIFO values.

**Table 5. Selected Statistics for Establishments With Payroll by Employment Size Class: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Selected statistics	Total	Establishments with an average of—								
		1 to 4 employees	5 to 9 employees	10 to 19 employees	20 to 49 employees	50 to 99 employees	100 to 249 employees	250 to 499 employees	500 to 999 employees	1,000 employees or more
<b>1987</b>										
Number of establishments .....	8 174	5 684	1 350	718	337	70	13	2	-	-
All employees** .....	44 579	10 143	8 652	9 464	9 370	4 528	2 420	(D)	-	-
Payroll, all employees .....	906 162	133 511	150 244	199 894	235 689	119 749	67 073	(D)	-	-
Construction worker hours (thousands) .....	55 208	12 707	9 684	11 712	12 334	5 468	3 301	(D)	-	-
Dollar value of business done .....	3 771 964	771 625	652 416	767 032	862 479	448 447	269 963	(D)	-	-
Value of construction work <sup>1</sup> .....	3 651 435	748 924	626 273	750 085	838 073	688 078	(D)	(D)	-	-
Net value of construction work† .....	3 371 200	678 816	565 878	695 790	781 469	649 247	(D)	(D)	-	-
Value added†† .....	1 880 303	381 159	319 082	377 839	432 484	231 333	138 404	(D)	-	-
Cost of materials, components, supplies, and fuels .....	1 611 426	320 357	272 939	334 897	373 390	191 807	118 035	(D)	-	-
Cost of construction work subcontracted to others .....	280 234	70 108	60 395	54 295	56 604	25 307	13 524	(D)	-	-
Rental cost for machinery, equipment, and buildings .....	45 168	10 586	8 235	9 956	8 823	5 190	2 377	(D)	-	-
Capital expenditures, other than land .....	41 437	13 357	5 568	9 153	9 470	2 596	1 291	(D)	-	-
End-of-year gross book value of depreciable assets .....	286 154	84 197	62 629	51 325	42 446	34 561	10 995	(D)	-	-
<b>1982</b>										
All employees** .....	32 349	8 143	6 451	6 958	7 644	2 525	627	-	-	-
Total construction receipts <sup>1</sup> .....	1 793 756	327 092	353 640	395 830	521 046	153 007	43 140	-	-	-
Value added†† .....	913 316	181 024	165 105	200 566	263 204	78 412	25 003	-	-	-
<b>1987 RELATIVE STANDARD ERROR OF ESTIMATE (PERCENT)</b>										
All employees** .....	2	3	5	4	4	(W)	(W)	(D)	-	-
Net value of construction work† .....	1	4	6	4	2	(W)	(D)	(D)	-	-
Capital expenditures, other than land .....	5	9	14	12	9	4	(W)	(D)	-	-

Note: Underscored data fields include data from adjoining columns which have been withheld to avoid disclosing data for individual companies.

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.



**Table 6. Selected Statistics by Size Class of the Dollar Value of Business Done for Establishments With Payroll: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Selected statistics	Total	Establishments with dollar value of business done									
		Less than \$25,000	\$25,000 to \$49,999	\$50,000 to \$99,999	\$100,000 to \$249,999	\$250,000 to \$499,999	\$500,000 to \$999,999	\$1,000,000 to \$2,499,999	\$2,500,000 to \$4,999,999	\$5,000,000 to \$9,999,999	\$10,000,000 or more
<b>1987</b>											
Number of establishments -----	8 174	(S)	(S)	(S)	1 913	1 248	868	542	154	78	27
All employees** -----	44 579	(S)	(S)	(S)	5 954	6 177	7 499	8 950	4 671	3 583	3 124
Payroll, all employees -----	906 162	(S)	(S)	(S)	75 025	99 635	150 736	209 936	126 042	107 100	93 354
Construction worker hours (thousands) -----	55 208	(S)	(S)	(S)	7 208	8 093	8 971	11 239	5 780	4 365	4 149
Dollar value of business done -----	3 771 964	(S)	(S)	(S)	306 901	428 561	597 070	801 549	522 407	517 540	432 004
Value of construction work <sup>1</sup> -----	3 651 435	(S)	(S)	(S)	300 873	413 322	574 090	777 075	510 608	496 802	414 930
Net value of construction work† -----	3 371 200	(S)	(S)	(S)	284 557	382 608	530 157	710 337	468 114	446 888	389 374
Value added†† -----	1 880 303	(S)	(S)	(S)	178 515	215 740	296 298	385 655	253 318	221 443	214 393
Cost of materials, components, supplies, and fuels -----	1 611 426	(S)	(S)	(S)	112 070	182 107	256 838	349 156	226 595	246 183	192 055
Cost of construction work subcontracted to others -----	280 234	(S)	(S)	(S)	16 315	30 713	43 933	66 737	42 494	49 913	25 556
Rental cost for machinery, equipment, and buildings -----	45 168	(S)	(S)	(S)	4 023	7 134	8 681	10 296	5 746	4 755	3 674
Capital expenditures, other than land -----	41 437	(S)	(S)	(S)	7 453	5 204	7 851	8 479	3 202	3 909	2 410
End-of-year gross book value of depreciable assets -----	286 154	(S)	(S)	(S)	39 716	39 728	67 960	43 759	23 275	32 664	19 150
<b>1982</b>											
All employees** -----	32 349	1 594	1 555	2 598	4 978	4 854	5 390	6 429	3 433	1 190	326
Total construction receipts <sup>1</sup> -----	1 793 756	16 984	42 210	86 019	194 104	227 688	316 688	458 417	296 279	117 281	38 085
Value added†† -----	913 316	10 577	26 814	52 298	106 273	118 824	160 960	226 800	139 029	53 170	18 569
<b>1987 RELATIVE STANDARD ERROR OF ESTIMATE (PERCENT)</b>											
All employees** -----	2	(S)	(S)	(S)	6	6	5	5	2	2	(W)
Net value of construction work† -----	1	(S)	(S)	(S)	5	6	6	4	3	4	(W)
Capital expenditures, other than land -----	5	(S)	(S)	(S)	14	14	14	12	6	5	2

Note: Underscored data fields include data from adjoining columns which have been withheld to avoid disclosing data for individual companies.

<sup>1</sup>In earlier censuses construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

**Table 7. Value of Construction Work for Establishments With Payroll by Type of Construction: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Type of construction	Value of construction work <sup>1</sup>				Relative standard error of estimate (percent) for column—			
	Total	New construction	Additions, alterations, or reconstruction <sup>2</sup>	Maintenance and repair				
	A	B	C	D	A	B	C	D
<b>1987</b>								
Value of construction work <sup>1</sup> .....	3 651 435	1 926 895	958 811	493 661	2	2	3	3
<b>Building construction</b> .....	3 349 903	1 917 838	950 515	481 549	2	2	3	3
Single-family houses .....	1 327 792	806 437	350 490	170 865	2	3	4	5
Single-family houses, detached .....	1 134 442	685 432	298 046	150 964	2	3	4	5
Single-family houses, attached .....	193 349	121 004	52 444	19 900	6	6	10	8
Apartment buildings with two or more apartments .....	226 756	130 755	51 905	44 095	6	8	15	9
Other residential buildings, including hotels and motels .....	132 678	60 036	37 750	34 892	6	6	7	17
Hotels and motels .....	90 948	45 199	23 070	22 679	7	7	6	19
Other residential buildings, excluding hotels and motels .....	41 730	14 837	14 679	12 213	13	7	14	32
Office buildings .....	702 996	418 698	214 827	69 470	4	4	7	4
Other commercial buildings such as stores, restaurants, and automobile service stations .....	378 892	217 015	106 800	55 076	4	4	7	11
Industrial buildings .....	149 642	86 031	29 002	34 608	6	7	5	13
Religious buildings .....	50 545	21 642	19 871	9 031	6	6	10	13
Educational buildings .....	179 170	88 750	67 382	23 037	6	8	6	13
Hospitals and institutional buildings .....	126 673	50 089	55 429	21 154	3	5	3	7
Amusement, social, and recreational buildings .....	36 956	17 938	9 227	9 791	12	18	9	23
Other nonresidential buildings .....	37 803	20 447	7 832	*9 530	24	12	19	57
<b>Nonbuilding construction</b> .....	29 465	9 057	8 296	12 111	14	7	19	28
<b>Construction work, n.s.k.</b> .....	272 067	(NA)	(NA)	(NA)	6	(NA)	(NA)	(NA)
<b>1982</b>								
Value of construction work <sup>1</sup> .....	1 793 756	1 085 865	(NA)	707 891	2	2	(NA)	2
<b>Building construction</b> .....	1 526 041	908 266	(NA)	617 775	1	2	(NA)	2
Single-family houses .....	575 496	343 170	(NA)	232 326	2	3	(NA)	3
Single-family houses, detached .....	467 923	268 888	(NA)	199 035	3	3	(NA)	4
Single-family houses, attached .....	107 573	74 281	(NA)	33 291	5	6	(NA)	8
Apartment buildings with two or more apartments .....	131 923	76 833	(NA)	55 089	5	7	(NA)	6
Other residential buildings, including hotels and motels .....	44 445	26 304	(NA)	18 141	4	5	(NA)	5
Hotels and motels .....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Other residential buildings, excluding hotels and motels .....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Office buildings .....	307 725	178 866	(NA)	128 858	3	3	(NA)	2
Other commercial buildings such as stores, restaurants, and automobile service stations .....	114 029	64 457	(NA)	49 571	4	5	(NA)	3
Industrial buildings and warehouses .....	119 962	77 792	(NA)	42 169	4	3	(NA)	7
Industrial buildings .....	102 497	63 498	(NA)	38 999	4	4	(NA)	8
Warehouses .....	17 464	14 294	(NA)	3 170	6	4	(NA)	20
Religious buildings .....	25 924	13 094	(NA)	12 829	4	4	(NA)	4
Educational buildings .....	94 011	61 535	(NA)	32 475	3	5	(NA)	4
Hospitals and institutional buildings .....	80 411	45 987	(NA)	34 424	3	3	(NA)	4
Amusement, social, and recreational buildings .....	23 329	14 768	(NA)	8 560	10	10	(NA)	20
Other nonresidential buildings .....	8 782	5 454	(NA)	3 328	17	4	(NA)	46
<b>Nonbuilding construction</b> .....	4 458	2 159	(NA)	2 299	20	21	(NA)	34
<b>Construction work, n.s.k.</b> .....	263 256	175 440	(NA)	87 815	4	4	(NA)	4

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

<sup>2</sup>In 1982, data for additions, alterations, or reconstruction were collected separately for SIC 1521, 1522, 1531, 1541, and 1542. For all other industries, data are included with "New construction."



**Table 8. Selected Statistics for Establishments With Payroll by Specialization in Types of Construction: 1987**

[Thousand dollars. Detail may not add to total due to rounding. This table presents selected statistics for establishments according to degree of specialization in major types of construction work. If number of establishments or value of construction work for a given type of specialization are relatively insignificant, data may not be shown. In addition, data are not shown in this table where distribution of the value of construction work by type of construction was not provided in table 7. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Number of establishments	All employees**	Payroll, all employees	Value of construction work		Net value of construction work†	Value added††	Cost of construction work sub-contracted to others	Relative standard error of estimate (percent) for column—		
				For all types	For specialized type				B	D	H
<b>All establishments -----</b>	<b>8 174</b>	<b>44 579</b>	<b>906 162</b>	<b>3 651 435</b>	<b>2 095 771</b>	<b>3 371 200</b>	<b>1 880 303</b>	<b>280 234</b>	<b>2</b>	<b>2</b>	<b>5</b>
Establishments not specializing by type -----	1 793	13 378	302 543	1 151 657	(NA)	1 075 661	599 320	75 995	2	2	6
Establishments specializing 51 percent or more -----	6 381	31 201	603 619	2 499 777	2 095 771	2 295 539	1 280 982	204 238	3	3	7
<b>SINGLE-FAMILY HOUSES, DETACHED</b>											
<b>All establishments specializing in type -----</b>	<b>3 401</b>	<b>14 168</b>	<b>252 902</b>	<b>1 083 599</b>	<b>890 109</b>	<b>992 018</b>	<b>535 265</b>	<b>91 581</b>	<b>3</b>	<b>3</b>	<b>6</b>
Establishments with —											
100 percent specialization -----	973	2 777	42 169	214 293	214 293	195 539	111 919	18 754	7	5	11
90 to 99 percent specialization -----	760	3 168	56 785	250 846	231 624	227 055	121 854	23 791	7	8	15
80 to 89 percent specialization -----	620	2 675	49 823	204 380	167 184	191 286	98 557	13 093	8	7	12
70 to 79 percent specialization -----	672	3 255	56 179	226 455	164 386	208 074	112 314	18 380	7	6	10
60 to 69 percent specialization -----	277	1 836	39 206	145 821	89 716	131 762	74 964	14 059	8	8	17
51 to 59 percent specialization -----	97	456	8 738	41 801	22 903	38 299	15 656	3 501	18	14	11
<b>SINGLE-FAMILY HOUSES, ATTACHED</b>											
<b>All establishments specializing in type -----</b>	<b>224</b>	<b>498</b>	<b>11 065</b>	<b>50 694</b>	<b>44 222</b>	<b>46 232</b>	<b>24 802</b>	<b>4 461</b>	<b>16</b>	<b>18</b>	<b>30</b>
Establishments with —											
100 percent specialization -----	88	128	2 517	24 066	24 066	20 107	10 457	3 959	23	26	34
90 to 99 percent specialization -----	*11	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
80 to 89 percent specialization -----	*31	107	2 763	6 817	5 659	6 637	3 573	*180	31	30	67
70 to 79 percent specialization -----	57	190	4 608	14 733	11 110	14 434	7 995	*298	32	40	59
60 to 69 percent specialization -----	35	*32	*359	*2 260	*1 356	*2 260	*1 442	-	45	48	-
51 to 59 percent specialization -----	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
<b>APARTMENT BUILDINGS WITH TWO OR MORE APARTMENTS</b>											
<b>All establishments specializing in type -----</b>	<b>124</b>	<b>1 171</b>	<b>22 438</b>	<b>87 489</b>	<b>69 479</b>	<b>79 201</b>	<b>45 343</b>	<b>8 288</b>	<b>27</b>	<b>17</b>	<b>26</b>
Establishments with —											
100 percent specialization -----	-	-	-	-	-	-	-	-	-	-	-
90 to 99 percent specialization -----	*32	*534	*9 509	36 200	33 166	32 140	*21 157	*4 060	56	37	48
80 to 89 percent specialization -----	*10	171	2 783	12 880	11 035	12 175	6 441	705	25	32	32
70 to 79 percent specialization -----	46	252	4 188	12 523	9 222	(D)	7 266	(D)	23	26	(D)
60 to 69 percent specialization -----	29	150	4 233	21 408	13 518	19 486	7 945	*1 922	24	22	47
51 to 59 percent specialization -----	6	62	1 724	4 477	2 535	(D)	2 533	(D)	25	34	(D)
<b>OFFICE BUILDINGS</b>											
<b>All establishments specializing in type -----</b>	<b>483</b>	<b>5 379</b>	<b>134 534</b>	<b>540 718</b>	<b>436 609</b>	<b>493 820</b>	<b>277 085</b>	<b>46 898</b>	<b>4</b>	<b>6</b>	<b>21</b>
Establishments with —											
100 percent specialization -----	151	1 354	31 270	118 870	118 870	105 603	58 199	*13 266	11	18	57
90 to 99 percent specialization -----	79	971	21 725	108 859	99 380	102 750	63 891	6 109	5	5	15
80 to 89 percent specialization -----	70	953	27 165	80 461	65 683	78 151	49 184	2 310	12	16	9
70 to 79 percent specialization -----	82	807	18 733	82 184	60 514	(D)	39 646	(D)	8	7	(D)
60 to 69 percent specialization -----	82	968	29 388	129 642	80 673	113 542	55 031	16 100	8	16	39
51 to 59 percent specialization -----	16	324	6 250	20 700	11 487	(D)	11 133	(D)	19	8	(D)
<b>OTHER COMMERCIAL BUILDINGS SUCH AS STORES, RESTAURANTS, AND AUTOMOBILE SERVICE STATIONS</b>											
<b>All establishments specializing in type -----</b>	<b>218</b>	<b>2 015</b>	<b>43 630</b>	<b>177 568</b>	<b>155 828</b>	<b>156 021</b>	<b>85 627</b>	<b>21 547</b>	<b>9</b>	<b>8</b>	<b>16</b>
Establishments with —											
100 percent specialization -----	113	919	17 464	75 694	75 694	67 017	36 593	8 677	15	14	20
90 to 99 percent specialization -----	23	329	7 696	33 813	31 569	28 458	13 821	5 355	11	9	3
80 to 89 percent specialization -----	20	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
70 to 79 percent specialization -----	25	346	8 309	35 584	26 621	33 895	17 287	1 688	19	23	23
60 to 69 percent specialization -----	33	255	4 726	17 276	10 776	12 748	8 726	*4 527	32	29	62
51 to 59 percent specialization -----	*2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
<b>INDUSTRIAL BUILDINGS</b>											
<b>All establishments specializing in type -----</b>	<b>111</b>	<b>953</b>	<b>18 691</b>	<b>70 749</b>	<b>56 554</b>	<b>68 843</b>	<b>41 191</b>	<b>1 905</b>	<b>17</b>	<b>15</b>	<b>22</b>
Establishments with —											
100 percent specialization -----	23	250	4 622	12 379	12 379	12 298	8 533	81	26	21	38
90 to 99 percent specialization -----	10	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
80 to 89 percent specialization -----	38	344	5 637	22 785	18 325	22 018	14 749	*766	39	39	51
70 to 79 percent specialization -----	*4	*72	*1 227	*7 265	*5 086	*7 265	*3 843	-	58	58	-
60 to 69 percent specialization -----	26	156	2 603	12 433	7 605	11 680	6 293	753	29	23	3
51 to 59 percent specialization -----	*7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
<b>EDUCATIONAL BUILDINGS</b>											
<b>All establishments specializing in type -----</b>	<b>103</b>	<b>818</b>	<b>17 417</b>	<b>90 158</b>	<b>63 869</b>	<b>81 810</b>	<b>44 446</b>	<b>8 348</b>	<b>13</b>	<b>13</b>	<b>26</b>
Establishments with —											
100 percent specialization -----	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
90 to 99 percent specialization -----	*24	*175	*3 210	11 157	10 379	10 715	6 263	*442	43	39	43
80 to 89 percent specialization -----	*23	182	3 705	28 031	23 117	23 322	8 355	*4 709	20	31	45
70 to 79 percent specialization -----	*24	*78	*1 120	*8 128	*5 689	*7 440	*2 032	*688	54	54	54
60 to 69 percent specialization -----	*20	140	3 429	11 470	7 136	10 556	6 093	914	31	20	12
51 to 59 percent specialization -----	*11	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

**Table 9. Quarterly Construction Worker Hours and Employment for Establishments With**

[Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of establishment	Number of establishments	Average number of construction workers	Construction worker hours (thousands)	January to March		April to June	
				Construction workers <sup>1</sup>	Hours worked (thousands)	Construction workers <sup>1</sup>	Hours worked (thousands)
	A	B	C	D	E	F	G
<b>United States</b> .....	<b>8 174</b>	<b>34 666</b>	<b>55 208</b>	<b>34 283</b>	<b>13 053</b>	<b>34 573</b>	<b>13 753</b>
Alabama .....	118	(D)	572	431	126	(D)	145
Alaska .....	30	(S)	(S)	(S)	(S)	(S)	(S)
Arizona .....	109	519	742	446	157	429	161
Arkansas .....	50	121	187	159	55	127	50
California .....	1 066	5 096	8 043	4 962	1 893	5 144	2 008
Colorado .....	141	477	559	396	124	377	125
Connecticut .....	162	904	1 384	901	335	927	353
Delaware .....	*28	104	142	108	28	100	35
District of Columbia .....	11	68	129	68	31	73	34
Florida .....	279	1 042	1 676	1 094	417	1 045	431
Georgia .....	176	599	996	612	247	610	245
Hawaii .....	39	163	265	175	67	158	64
Idaho .....	22	*58	*88	*55	*20	*61	*22
Illinois .....	324	1 959	3 577	2 017	896	1 984	877
Indiana .....	187	695	1 220	719	299	684	297
Iowa .....	74	152	136	136	32	151	34
Kansas .....	70	236	265	234	60	230	66
Kentucky .....	77	219	377	196	79	230	97
Louisiana .....	104	318	455	320	103	292	113
Maine .....	65	128	202	113	39	129	52
Maryland .....	214	1 448	2 427	1 441	555	1 439	590
Massachusetts .....	297	1 342	2 272	1 295	517	1 307	561
Michigan .....	170	757	1 488	776	373	730	353
Minnesota .....	120	711	1 164	708	279	733	289
Mississippi .....	57	(S)	(S)	(S)	(S)	(S)	(S)
Missouri .....	130	848	1 315	776	288	849	320
Montana .....	*32	(S)	(S)	(S)	(S)	(S)	(S)
Nebraska .....	63	145	246	125	47	163	69
Nevada .....	25	182	*303	200	*75	183	*70
New Hampshire .....	53	135	298	125	73	133	76
New Jersey .....	354	1 848	2 821	1 893	709	1 903	738
New Mexico .....	54	117	132	114	34	114	28
New York .....	600	2 847	4 627	2 845	1 113	2 880	1 159
North Carolina .....	248	628	1 095	625	239	620	276
North Dakota .....	*19	*71	*124	32	*14	*98	*45
Ohio .....	374	1 420	2 399	1 445	556	1 361	583
Oklahoma .....	41	167	258	147	46	174	67
Oregon .....	139	462	656	455	159	460	166
Pennsylvania .....	455	1 884	2 797	1 905	672	1 878	696
Rhode Island .....	37	113	178	109	41	112	42
South Carolina .....	106	294	439	258	96	312	112
South Dakota .....	*26	(S)	(S)	(S)	(S)	(S)	(S)
Tennessee .....	136	546	940	565	237	528	227
Texas .....	413	1 908	2 957	1 879	714	1 855	713
Utah .....	35	124	241	132	64	119	60
Vermont .....	*30	46	78	*48	*19	*48	*20
Virginia .....	333	1 613	2 567	1 576	570	1 588	639
Washington .....	267	818	1 051	754	231	956	304
West Virginia .....	*30	*77	81	*84	17	*82	13
Wisconsin .....	168	603	929	592	218	613	243
Wyoming .....	1	(D)	(D)	(D)	(D)	(D)	(D)

<sup>1</sup>Construction workers during pay periods including 12th of March, May, August, and November.



# Payroll by State: 1987

July to September		October to December		Relative standard error of estimate (percent) for column—										Location of establishment
Construction workers¹	Hours worked (thousands)	Construction workers¹	Hours worked (thousands)											
H	I	J	K	B	C	D	E	F	G	H	I	J	K	
36 496	14 684	33 311	13 716	2	2	2	2	2	2	2	2	2	2	U.S.
(D)	153	348	146	(D)	14	15	16	(D)	15	(D)	15	11	13	AL
(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	AK
645	235	556	187	8	7	10	9	10	8	7	7	8	10	AZ
127	48	72	33	21	24	17	19	37	34	25	27	34	33	AR
5 405	2 156	4 872	1 984	3	4	3	4	3	5	3	4	3	5	CA
602	166	534	142	11	7	14	14	10	8	10	5	14	9	CO
925	364	862	331	12	9	8	8	14	11	12	8	14	11	CT
120	46	88	31	31	23	37	30	34	25	26	18	33	28	DE
82	35	52	27	7	18	9	19	7	17	8	17	5	20	DC
1 098	437	933	389	7	9	7	9	7	10	7	9	7	9	FL
636	251	538	251	9	10	9	10	9	11	10	11	11	13	GA
154	63	165	69	13	6	12	6	14	7	14	6	14	8	HI
*69	*26	*49	*18	56	56	65	67	48	48	49	48	64	64	ID
1 986	919	1 850	883	5	6	6	7	5	7	5	7	5	6	IL
693	316	684	307	14	19	13	18	14	19	14	20	15	21	IN
173	37	147	32	25	16	22	16	26	16	26	15	25	17	IA
259	75	223	62	17	15	18	17	17	16	16	12	17	17	KS
234	100	217	100	22	28	25	34	22	26	22	29	24	27	KY
347	137	314	100	14	19	13	17	15	19	14	19	18	21	LA
153	61	120	48	12	20	26	28	13	20	12	18	15	25	ME
1 552	645	1 363	636	7	7	7	7	7	7	7	7	6	7	MD
1 411	620	1 354	572	7	9	6	9	7	10	7	9	7	10	MA
787	390	736	370	9	9	9	10	9	9	8	8	10	10	MI
696	290	707	304	7	10	8	12	9	11	5	7	8	10	MN
(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	MS
901	357	867	349	5	6	4	6	5	6	5	7	5	7	MO
(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	MT
171	76	124	51	28	25	28	27	31	27	27	22	29	28	NE
210	*97	136	*60	35	46	38	49	38	47	38	45	30	46	NV
150	77	132	70	17	22	21	24	20	24	13	20	15	22	NH
1 834	720	1 762	654	5	6	5	6	5	6	5	6	5	6	NJ
142	41	98	27	24	23	24	30	24	19	26	20	29	38	NM
2 849	1 177	2 814	1 177	9	12	9	12	9	11	10	12	9	12	NY
665	298	601	280	10	17	9	13	12	19	12	19	11	18	NC
*106	*46	*48	17	55	63	40	42	72	74	64	72	41	37	ND
1 439	622	1 434	636	7	9	6	9	7	9	8	10	9	10	OH
201	82	149	62	28	27	24	16	28	25	31	34	28	29	OK
480	166	453	164	11	15	10	14	11	15	12	17	12	17	OR
1 927	735	1 826	692	6	8	6	8	7	8	7	8	7	9	PA
121	47	110	46	10	7	7	6	8	3	13	8	14	15	RI
344	114	262	115	25	29	21	30	27	30	30	29	22	29	SC
(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	SD
567	239	526	235	7	13	8	14	8	13	8	13	8	14	TN
2 050	797	1 848	731	7	6	6	6	7	6	7	7	7	7	TX
137	62	109	53	24	31	28	32	23	32	22	28	28	34	UT
58	25	33	13	25	28	41	51	41	45	26	29	23	30	VT
1 710	690	1 578	665	6	8	6	8	7	8	7	8	6	9	VA
843	268	719	247	14	15	11	12	20	26	14	13	12	13	WA
*95	30	*49	*20	49	21	48	13	52	13	45	30	63	44	WV
667	249	540	217	12	16	12	16	12	17	13	16	12	16	WI
(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	WY

Table 10. **Value of Construction Work for Establishments With Payroll by Location of Construction Work: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of construction work	1987					1982 construction receipts for work done in this State <sup>1</sup>	Percent change 1987 (col A) to 1982 (col F)	Relative standard error of estimate (percent) for column—		
	Value of construction work done in this State <sup>1</sup>	Construction work done by establishments located in this State		Construction work done by establishments not located in this State						
		Number	Value of construction work	Number	Value of construction work					
A	B	C	D	E	F	G	A	C	E	
United States -----	3 651 435	8 137	3 383 445	2 223	267 989	1 793 756	103.6	2	2	7
Alabama -----	32 142	118	(D)	*1	(D)	18 684	72.0	18	(D)	(D)
Alaska -----	8 728	30	8 146	*4	*581	15 111	-42.2	35	38	43
Arizona -----	64 330	109	63 523	45	*806	33 124	94.2	11	11	42
Arkansas -----	8 284	50	6 111	26	2 172	5 386	53.8	20	23	38
California -----	622 160	1 066	620 603	18	1 557	329 633	88.7	5	5	19
Colorado -----	54 337	141	(D)	13	(D)	47 214	15.1	7	(D)	(D)
Connecticut -----	82 371	161	79 285	36	3 085	39 198	110.1	5	5	11
Delaware -----	9 020	28	6 443	48	2 576	5 471	64.9	26	36	18
District of Columbia -----	25 939	11	3 176	101	22 762	7 111	264.8	7	2	8
Florida -----	117 688	279	108 056	118	9 631	60 156	95.6	8	8	13
Georgia -----	75 222	176	65 248	88	9 973	42 912	75.3	10	11	16
Hawaii -----	(D)	39	20 414	*4	(D)	14 052	(D)	(D)	9	(D)
Idaho -----	*5 728	22	(D)	*2	(D)	*8 024	-28.6	43	(D)	(D)
Illinois -----	225 217	324	216 966	72	8 250	94 974	137.1	4	4	9
Indiana -----	70 039	187	68 556	87	1 483	34 284	104.3	10	10	19
Iowa -----	13 833	74	11 234	62	*2 598	9 643	43.5	21	24	48
Kansas -----	(D)	70	22 896	*14	(D)	24 038	(D)	(D)	26	(D)
Kentucky -----	13 365	77	10 699	5	2 665	12 293	8.7	18	23	(W)
Louisiana -----	25 994	104	25 718	24	275	24 637	5.5	15	15	20
Maine -----	19 936	65	12 456	22	7 479	5 083	292.2	9	15	6
Maryland -----	110 114	214	100 650	140	9 464	51 130	115.4	11	12	8
Massachusetts -----	146 666	296	139 348	45	7 318	63 471	131.1	6	7	8
Michigan -----	90 148	170	87 373	37	2 774	41 206	118.8	6	7	20
Minnesota -----	68 091	120	(D)	*14	(D)	24 830	174.2	5	(D)	(D)
Mississippi -----	6 655	57	6 440	13	215	8 346	-20.3	23	24	21
Missouri -----	86 546	130	80 590	33	5 955	36 117	139.6	8	8	4
Montana -----	*6 352	32	(D)	*2	(D)	3 761	68.9	50	(D)	(D)
Nebraska -----	(D)	63	15 771	13	(D)	11 467	(D)	(D)	14	(D)
Nevada -----	14 992	25	14 441	16	551	9 685	54.8	36	38	12
New Hampshire -----	15 658	53	9 698	68	5 960	7 528	108.0	23	36	11
New Jersey -----	165 016	343	150 585	117	14 431	50 512	226.7	6	6	10
New Mexico -----	13 872	54	11 872	*14	*1 999	13 175	5.3	29	33	54
New York -----	350 797	587	289 396	103	61 400	146 363	139.7	7	6	27
North Carolina -----	50 532	248	44 694	38	5 838	22 738	122.2	12	13	32
North Dakota -----	3 568	19	(D)	*2	(D)	*4 700	-24.1	39	(D)	(D)
Ohio -----	133 630	363	131 607	42	2 022	56 716	135.6	7	7	21
Oklahoma -----	12 979	41	12 502	23	477	17 400	-25.4	17	17	27
Oregon -----	53 139	139	(D)	2	(D)	20 210	162.9	18	(D)	(D)
Pennsylvania -----	177 501	455	168 486	95	9 014	65 276	171.9	6	6	10
Rhode Island -----	19 184	37	15 698	60	3 486	6 602	190.6	3	2	15
South Carolina -----	20 394	106	18 768	27	1 625	14 135	44.3	19	20	18
South Dakota -----	*6 663	26	1 898	33	*4 765	*951	600.6	41	27	57
Tennessee -----	41 840	136	40 066	46	*1 774	16 421	154.8	11	11	43
Texas -----	189 842	413	187 308	31	2 533	137 104	38.5	7	7	25
Utah -----	11 071	35	(D)	1	(D)	4 477	147.3	23	(D)	(D)
Vermont -----	(D)	30	2 711	*21	(D)	1 176	(D)	(D)	4	(D)
Virginia -----	179 894	333	145 124	177	34 769	56 921	216.0	5	6	9
Washington -----	75 624	267	73 368	65	2 255	41 461	82.4	10	10	30
West Virginia -----	*6 938	30	*5 671	73	1 266	6 160	12.6	42	51	25
Wisconsin -----	52 180	168	50 197	53	1 983	22 031	136.8	10	11	9
Wyoming -----	(D)	1	(D)	11	(D)	*636	(D)	(D)	(D)	(D)

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.



**Table 11. Dollar Value of Business Done for Establishments With Payroll by Kind of Business Activity: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. Based on their primary business activity or combination of activities, establishments were classified into this specific industry. These establishments, however, may also be engaged in other kinds of business activities. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Primary and other kinds of business activities	Dollar value of business done <sup>1</sup>		Relative standard error of estimate (percent)	
	1987	1982	1987	1982
<b>All kinds of business.....</b>	<b>3 771 964</b>	<b>1 854 075</b>	<b>2</b>	<b>2</b>
Acoustical contractor.....	26 247	24 024	8	4
Tile setting contractor.....	68 254	63 355	3	4
Carpentry contractor.....	18 844	4 108	15	11
Floor covering contractor, except wood.....	877 601	1 245 569	2	2
Computer or resilient floor installation contractor.....	235 668	(NA)	10	(NA)
Linoleum, asphalt or vinyl tile installation contractor.....	641 933	(NA)	3	(NA)
Carpet laying or removal contractor.....	1 737 414	(NA)	2	(NA)
Flooring contractor, wood.....	639 441	240 254	3	4
Other construction activities.....	147 853	(S)	8	(S)
Retail trade.....	76 090	32 955	8	6
Wholesale trade.....	13 392	4 306	11	22
Other activities.....	30 240	(S)	6	(S)
Kind of business activity, n.s.k.....	136 588	(S)	10	(S)

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

**Table 12. Selected Industry Ratios for Establishments With Payroll: 1987 and 1982**

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Selected statistics	1987	1982	Relative standard error of estimate (percent) for 1987
<b>AVERAGE PER ESTABLISHMENT</b>			
Number of employees**.....	5.5	4.8	1
Number of construction workers.....	4.2	3.8	1
Number of all other employees.....	1.2	(NA)	2
Payroll, all employees..... \$1,000..	110.9	74.5	1
Payroll, construction workers..... do..	79.0	54.6	1
Payroll, other employees..... do..	31.9	19.9	2
Dollar value of business done..... do..	461.5	277.8	2
Value of construction work <sup>1</sup> ..... do..	446.7	268.8	2
Cost of materials, components, supplies, and fuels..... do..	197.1	126.6	2
Construction work subcontracted to others..... do..	34.3	14.4	5
Rental cost for machinery, equipment, and buildings..... do..	5.5	2.7	3
Capital expenditures, other than land..... do..	5.1	2.9	5
Gross book value of depreciable assets..... do..	35.0	25.4	6
<b>AVERAGE PER EMPLOYEE</b>			
Payroll, all employees..... do..	20.3	15.4	1
Dollar value of business done..... do..	84.6	57.3	1
Value added††..... do..	42.2	28.2	1
<b>AVERAGE PER CONSTRUCTION WORKER</b>			
Payroll, construction workers..... do..	18.6	14.3	1
Value of construction work <sup>1</sup> ..... do..	105.3	70.6	1
Construction worker hours.....	1 592.6	1 471.8	1
<b>AVERAGE PER OTHER EMPLOYEE</b>			
Payroll, other employees..... \$1,000..	26.3	(NA)	1
<b>AVERAGE PER DOLLAR VALUE OF CONSTRUCTION WORK<sup>1</sup></b>			
Payroll, all employees.....	.248	.277	1
Cost of materials, components, supplies, and fuels.....	.441	.471	1
Cost of construction work subcontracted to others.....	.077	.054	4
Rental cost for machinery, equipment, and buildings.....	.012	.010	3

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.



**Table 13. Selected Industry Ratios for Establishments With Payroll by State: 1987**

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of establishment	Average number of employees** per establishment	Payroll per employee (\$1,000)	Construction worker hours per construction worker	Value of construction work per construction worker (\$1,000)	Average per dollar of value of construction work			
					Payroll, all employees	Cost of materials, components, supplies, and fuels	Cost of construction work sub-contracted to others	Rental cost for machinery, equipment, and buildings
<b>United States</b> .....	5.5	20.3	1 592.6	105.3	.248	.441	.077	.012
Alabama .....	(D)	(D)	(D)	(D)	(D)	(D)	*.081	.006
Alaska .....	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(D)
Arizona .....	6.3	20.5	1 429.7	123.2	.220	.547	.063	.013
Arkansas .....	3.0	12.3	1 545.5	51.6	.300	.385	(S)	*.006
California .....	6.2	23.8	1 578.3	122.3	.253	.440	.074	.015
Colorado .....	4.4	19.0	1 171.9	111.2	.220	.449	.101	.016
Connecticut .....	6.9	20.5	1 531.0	93.4	.273	.392	.060	.009
Delaware .....	*4.9	18.5	1 365.4	72.3	.338	*.431	.022	.018
District of Columbia .....	8.5	19.7	1 897.1	(D)	(D)	(D)	(D)	(D)
Florida .....	4.8	18.3	1 608.4	105.0	.223	.465	.081	.015
Georgia .....	4.7	18.5	1 662.8	116.3	.219	.478	.070	.010
Hawaii .....	5.7	24.3	1 625.8	125.2	.265	.498	*.075	.014
Idaho .....	*3.4	*11.7	*1 517.2	*95.7	*.156	*.559	*.126	*.014
Illinois .....	8.0	24.3	1 825.9	119.8	.269	.415	.067	.013
Indiana .....	4.9	17.9	1 755.4	103.8	.227	.495	.073	.009
Iowa .....	2.6	13.6	894.7	78.3	.219	.339	.042	(S)
Kansas .....	4.3	21.0	1 122.9	115.1	.232	.503	*.120	.009
Kentucky .....	3.7	12.4	1 721.5	52.8	.302	.372	.011	.005
Louisiana .....	4.1	13.1	1 430.8	81.0	.217	.364	.072	.012
Maine .....	2.4	16.5	1 578.1	97.3	.209	.457	.014	.008
Maryland .....	8.8	21.9	1 676.1	116.9	.245	.460	.084	.014
Massachusetts .....	5.6	23.3	1 693.0	117.5	.246	.422	.064	.013
Michigan .....	6.0	22.9	1 965.7	116.7	.264	.448	.098	.012
Minnesota .....	7.6	22.1	1 637.1	98.3	.287	.363	.033	.007
Mississippi .....	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)
Missouri .....	8.8	23.1	1 550.7	102.3	.304	.444	.052	.010
Montana .....	(S)	(S)	(S)	(S)	(S)	(D)	(S)	(S)
Nebraska .....	3.4	18.7	1 696.6	120.7	.232	.495	.103	.016
Nevada .....	9.0	19.8	*1 664.8	80.6	.303	.437	*.021	*.013
New Hampshire .....	3.1	17.8	2 207.4	80.4	.273	.477	*.073	*.023
New Jersey .....	6.5	22.6	1 526.5	111.8	.251	.409	.108	.011
New Mexico .....	2.9	12.3	1 128.2	104.7	.156	(D)	.132	.011
New York .....	6.0	22.8	1 625.2	106.8	.270	.377	.071	.011
North Carolina .....	3.1	13.8	1 743.6	74.2	.230	.519	.073	.010
North Dakota .....	*7.0	*13.3	*1 746.5	*108.5	*.230	*.702	(S)	*.017
Ohio .....	5.0	20.0	1 689.4	100.2	.262	.456	.085	.015
Oklahoma .....	5.4	16.7	1 544.9	79.8	.279	.438	.096	.011
Oregon .....	4.3	18.3	1 419.9	116.3	.203	.401	*.159	.009
Pennsylvania .....	5.2	18.2	1 484.6	95.1	.240	.445	.068	.010
Rhode Island .....	3.8	24.0	1 575.2	143.4	.207	(D)	.015	.005
South Carolina .....	3.8	12.5	1 493.2	73.2	.234	.423	.060	.014
South Dakota .....	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)
Tennessee .....	4.8	16.0	1 721.6	73.6	.262	.546	.075	.006
Texas .....	5.7	15.4	1 549.8	100.2	.191	.467	.106	.017
Utah .....	4.6	17.6	1 943.5	94.1	.242	.480	*.080	.015
Vermont .....	(D)	(D)	1 695.7	61.0	(D)	.410	.077	(D)
Virginia .....	6.2	18.4	1 591.4	95.2	.248	.457	.068	.008
Washington .....	3.9	17.9	1 284.8	91.6	.250	.457	.072	.017
West Virginia .....	*3.3	*10.8	*1 051.9	*80.2	*.174	*.526	(S)	(S)
Wisconsin .....	4.4	19.5	1 540.6	84.1	.286	.483	.037	.009
Wyoming .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)





# APPENDIX A.

## Explanation of Terms

**Construction**—Is composed of three broad categories:

1. **New construction**—Includes the complete, original erection of structures and essential service facilities and the initial installation of integral equipment such as elevators, and plumbing, heating, and air-conditioning supplies and equipment.
2. **Additions, alterations or reconstruction**—Includes construction activity making structural changes to existing facilities. Generally, this type of activity is considered a capital investment in the property.
3. **Maintenance and repair**—Includes construction done for the purpose of upkeep of property rather than additional investment in the property.

Examples of the general distinction between maintenance and repair and reconstruction are provided here: roof repairs, including the replacement of shingles, gutters, etc., are classified under maintenance and repairs. A complete reroofing, however, is classified as reconstruction.

**Number of establishments in business during year**—Includes all establishments that were in business at any time during the year. It covers all full-year and part-year operations. Construction establishments which were inactive or idle for the entire year were not included.

**Proprietors and working partners**—These data were not collected on the census report forms. The data shown are based on crediting each sole proprietorship establishment with one active proprietor and each partnership establishment with two working partners.

**All employees**—Comprise all full-time and part-time employees on the payrolls of construction establishments, who worked or received pay for any part of the pay period including the 12th of March, May, August, and November. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included, but proprietors and partners of unincorporated firms are not.

All employees is the sum of all employees during the pay periods including the 12th of March, May, August, and November, divided by 4.

**Construction workers**—Includes all workers up through the working foreman level directly engaged in construction operations, such as painters, carpenters, plumbers, and electricians. Included are journeymen, mechanics, apprentices, laborers, truck drivers and helpers, equipment

operators, and on-site record keepers and security guards. Supervisory employees above the working foreman level are excluded from this category but are included in the "other employees" category.

**Other employees**—Includes employees in executive, purchasing, accounting, personnel, professional, technical activities, and routine office functions. Also included are supervisory employees above the working foreman level.

**Construction worker hours**—Includes the total number of hours worked by construction workers. Construction worker hours were collected for each of the four quarters of 1987.

**Payroll**—Includes the gross earnings paid in the calendar year 1987 to all employees on the payroll of construction establishments. It includes all forms of compensation such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation, but excludes payments to the proprietor or partners, if an unincorporated concern.

**Employer costs for fringe benefits (supplemental labor costs)**—Represents expenditures made by the employer during 1987 for legally required and voluntary fringe benefit programs for employees.

**Legally required contributions**—Include Social Security contributions, unemployment compensation, workman's compensation, and State temporary disability payments.

**Voluntary payments**—Include life insurance premiums, pension plans, insurance premiums on hospital and medical plans, welfare plans, and union negotiated benefits.

Dollar value of business done comprises the following detail:

**Value of construction work done**—Includes all value of construction work done during 1987 for construction work performed by general contractors, special trades contractors, subcontractors, and land development and improvement work. Included is new construction, additions and alterations or reconstruction, and maintenance and repair construction work. Also included is the value of any construction work done by the reporting establishments for themselves.



Builders were instructed to include the value of buildings and other structures built or being built for sale in 1987 but not sold. They were to include the costs of such construction plus normal profit. Also included is the cost of construction work done on buildings for rent or lease.

Establishments engaged in the sale and installation of such construction components as plumbing, heating, and central air conditioning supplies and equipment; lumber and building materials; paint, glass, and wallpaper; and electrical and wiring supplies, elevators or escalators, etc., were instructed to include both the value for the installation and the receipts covering the price of the items installed.

Excluded was the cost of industrial and other specialized machinery and equipment which are not an integral part of a structure.

**Land receipts**—Includes receipts from the sale of land, whether held for sale or sold in connection with the sale of houses and other structures. It excludes the value of any improvements made to the land prior to the sale. (That value was to be included in the value of construction work done.)

**Other business receipts**—Includes business receipts not reported as value of construction work done or land receipts. The item includes business receipts from retail and wholesale trade, rental of equipment, manufacturing, transportation, legal service, insurance, finance, rental of property and other real estate operations, and other nonconstruction activities. Receipts for separately definable architectural and engineering work for others are also included here.

Excluded was the value of construction work done and receipts from other business operations in foreign countries and non-operating income such as interest and dividends.

**Net value of construction work**—Derived for each establishment by subtracting the costs for construction work subcontracted to others from the value of construction work done. (For a further explanation see "Duplication in Value of Construction Work" section in the Introduction.)

**Value added**—Derived for each establishment, value added is equal to dollar value of business done, less costs for construction work subcontracted to others, and costs for materials, components, supplies and fuels. For SIC 6552 and SIC 1531, for which land receipts are significant, land receipts are also subtracted from dollar value of business done. (For a further explanation see "Duplication in Value of Construction Work" section in the Introduction.)

**Selected costs**—Represents the costs for materials, components, and supplies; costs for construction work subcontracted to others; and costs for selected power, fuels, and lubricants. Capital expenditures and rental costs for machinery, equipment, and structures are shown elsewhere.

Costs for materials, components, and supplies include:

- total costs to reporting establishments during 1987 for the purchase of all materials, components, and supplies, except fuels. (Supplies include expendable tools which are charged to current accounts.)
- freight and other direct charges should represent only amount paid after discounts, and the value of materials, components, and supplies obtained from other establishments of the respondent's company.
- costs for materials, components, and supplies used by the reporting establishments in the construction or reconstruction of buildings/structures for themselves which are chargeable to their fixed assets accounts, are included in this item as are costs for materials bought and resold to others.
- costs made for direct purchases of materials, components, and supplies even though the purchases were subsequently provided to subcontractors for their use.

Excluded from this item are:

- industrial and other specialized machinery and equipment, such as printing presses; computer systems; etc., which are not an integral part of a structure
- materials furnished to contractors by the owners of projects.

Costs for construction work subcontracted to others include:

- all costs during 1987 for construction work subcontracted out to other construction contractors.

Excluded from this item are:

- The costs to the reporting establishment for its purchases of materials, components, and supplies, provided to a subcontractor for his use. Such costs are reported under a separate category, "costs for materials, components, and supplies."
- costs for the rental of machinery or equipment.

Costs for selected power, fuels, and lubricants include:

- costs for fuels, lubricants, and electric energy purchased during the year from other companies, or received from other establishments of the company.
- costs for natural and manufactured gas, fuel oil, coal and coke products, etc.

**Rental costs for machinery, equipment, and buildings**—Includes all costs during 1987 for renting or leasing construction machinery and equipment, transportation equipment, production equipment, office equipment, furniture and fixtures, scaffolding, office space, and buildings. It



excludes costs for the rental of land. It also excludes costs under agreements which, in effect, are conditional sales contracts such as capital leases. Such costs are included in "capital expenditures."

**Selected purchased services**—Includes all costs during 1987 for communication services purchased from other companies or from other establishments of the company. It also includes the cost of all repairs made to structures and equipment by outside companies, or from other establishments of the same company. It includes only the cost of that repair necessary to maintain property and equipment. It excludes the cost of improvements that increase the value of property, or the cost of adapting it for another use. Such costs are included in "capital expenditures".

**Assets and depreciation**—Refers to the original cost of all fixed tangible assets such as buildings and other structures (offices, shops, etc.); stationary machinery (generators, shop equipment, etc.); mobile machinery (tractors, trucks, etc.); and other equipment (office furniture and fixtures, etc.). Not included are such items as current assets, depletable assets, intangible assets, and nondepreciable assets.

Data on assets and depreciation were collected separately for: (1) buildings and other structures, additions, and related facilities; and, (2) machinery and equipment.

Respondents were also asked to report capitalized expenditures, depreciation charges, and the gross value of assets sold, retired, scrapped, destroyed, etc., during 1987.

**Capital expenditures**—Refers to all costs actually incurred during 1987 which were or would be chargeable to the fixed assets accounts of the reporting establishments and which were of the type for which depreciation accounts are ordinarily maintained. These expenditures cover the acquisition, the construction, and the major alteration of the reporting establishment's own buildings and other structures, whether purchased, constructed under contract, or constructed by the reporting establishment's own forces; and the acquisition of machinery and equipment.

If leasing arrangements met the criteria set down by the Financial Accounting Standards Board (FASB) for a capital lease, respondents were instructed to report the original cost or market value of that equipment or building as a fixed asset and capital expenditure if acquired during 1987.

If capital expenditures were not recorded directly at the establishment level but handled centrally at the company or division level, respondents were requested to report appropriate estimates for the individual establishments.

**Inventories**—Includes all of the materials and supplies that are owned regardless of where they are held. Excludes materials which are owned by others, but held by the reporting establishment.

Builders who built on their own account for sale were requested to report work in progress and finished units not sold for buildings and other structures built for sale.

Inventories of multi-establishment companies were instructed to be reported by the establishment that is responsible for the inventories even if these inventories were held at a separate location.

**Ownership of construction projects**—This item shows the distribution of the value of construction work done by ownership of the project, that is, Government owned or privately owned. This classification relates to the ownership of the projects or work undertaken during the construction phase. Government owned projects are shown separately for Federal, and State and local governments.

**Value of construction work subcontracted in from others**—Includes the value of construction work during 1987 for work done by reporting establishments for other construction contractors or builders. Establishments were asked to report the approximate percent of total value of construction work accounted for by such work, and the percentages reported were applied to the reported value of construction work to develop a value for this item.

**Types of construction**—This item provides data by the types of buildings, structures, or other facilities being constructed or worked on by construction establishments in 1987. Respondents were instructed that each building, structure, or other facility should be classified in terms of its function. For example, a restaurant building was to be classified in the restaurant category whether it was designed as a commercial restaurant building or an auxiliary unit of an educational institution. If respondents worked on more than one type of building or structure in a multibuilding complex, they were instructed to report separately for each building or type of structure. If they worked on a building that had more than one purpose, i.e, office and residential, or commercial, they were to classify the building by major purpose.

In addition all respondents were requested to report the percentage of the value of construction work done for new construction, additions, alterations, or reconstruction, and maintenance and repair work for each of these types. See the definition of "Construction" for the meanings of these terms.

Building construction:

- **Single-family houses, detached**—Includes all residential buildings constructed for one family use.
- **Single-family houses, attached (include townhouses)**—Includes all residential buildings with two or more living quarters side by side, completely independent of one another, and separated by an unbroken wall from ground to roof.
- **Apartment buildings with two or more apartments**—Includes high-rise, low-rise, or any structures containing two or more housing units (excluding attached single-family houses and townhouses described above).
- **Hotels and motels**—Includes hotels, motels, and tourist cabins intended for transient accommodations.



- **Other residential buildings**—Includes dormitories, fraternity and sorority houses, nurses homes, and other nonhousekeeping residential structures.
- **Office buildings**—Includes all buildings which are used primarily for office space or for government administrative offices. Also included are banks or financial buildings which are three stories or more.
- **Other commercial buildings, such as stores, restaurants, and automobile service stations**—Includes all buildings which are intended for use primarily in the wholesale, retail, and service trades. For example, shopping centers, department stores, drug stores, restaurants, public garages, auto service stations, and one or two story bank or financial institutions.
- **Industrial buildings**—Includes all industrial buildings and plants which are used to house production and assembly activities. Heavy industrial facilities such as blast furnaces, petroleum refineries, chemical complexes, etc., are not included in this category, but under nonbuilding construction.
- **Warehouses**—Includes commercial warehouses, cold storage plants, grain elevators, mini-warehouses, and other such storage buildings.
- **Religious buildings**—Includes all buildings which are intended for religious services or functions, such as churches, synagogues, convents, monasteries, and seminaries.
- **Educational buildings**—Includes all buildings which are used directly in administrative and instructional activities, such as colleges, universities, elementary and secondary schools, correspondence, commercial, and trade schools. Libraries, museums, and art galleries, as well as laboratories which are not a part of a manufacturing establishment, are also included.
- **Hospitals and institutional buildings**—Includes all buildings which are intended to provide hospital and institutional care, such as clinics, infirmaries, sanitariums, nursing homes, homes for the aged, and orphanages.
- **Farm buildings, nonresidential**—Includes nonresidential farm buildings such as barns, poultry houses, implement sheds, and farm silos.
- **Amusement, social, and recreational buildings**—Includes buildings which are used primarily for entertainment, social and recreational activities, such as sports arenas, theaters, music halls, golf and country club buildings, skating rinks, bowling alleys, and indoor swimming pools.
- **Other nonresidential buildings**—Includes nonresidential buildings which are not classified elsewhere, such as fire stations, prisons, civic centers, bus and air passenger terminals and hangars.

#### Nonbuilding construction:

- **Highways, streets and related work, such as installation of guardrails, highway signs, etc.**—Includes streets, roads, alleys, sidewalks, curbs and gutters, culverts, right-of-way drainage, erosion control and lighting. Also includes earthwork protective structures when used in connection with road improvements.
- **Outdoor swimming pools**—Includes wading pools and reflecting pools.
- **Recreational facilities**—Includes athletic fields, golf courses, outdoor tennis courts, trails, and camps.
- **Bridges and elevated highways**—Includes viaducts and overpasses; roads, highways, railroads, and causeways built on structural supports.
- **Tunnels**—Includes highway, pedestrian, and railroad tunnels.
- **Railroad construction**—Includes the construction of railroad beds, tracks, freight yards, and signal towers.
- **Subway construction**—Includes urban mass transit subway systems above or below ground.
- **Dam and reservoir construction**—Includes hydroelectric, water supply, and flood control dams and reservoirs.
- **Marine construction**—Includes dredging, underwater rock removal, breakwaters, navigational channels, jetties, and locks.
- **Harbor and port facilities**—Includes docks, piers, and wharves.
- **Conservation and development construction**—Includes land reclamation, irrigation projects, drainage canals, levees, and flood control projects.
- **Power and communication transmission lines, towers, and related facilities**—Includes electric power lines, telephone and telegraph lines, fiber optic cables, cable television lines, television and radio towers, electric light and power facilities.
- **Power plants, except nuclear**—Includes electric and steam generating plants.
- **Power plants, nuclear**—Includes atomic energy plants, and nuclear reactors.
- **Sewers, sewerlines, and related facilities**—Includes sanitary and storm sewers, and related facilities.
- **Sewage treatment plants**—Includes sewage treatment and waste disposal plants.
- **Water mains and related facilities**—Includes water supply systems and related facilities.



- **Water treatment plants**—Includes water filtration and water softening plants.
- **Pipeline construction other than sewer or waterlines**—Includes pipelines for the transmission of gas, petroleum products, and liquefied gases.
- **Blast furnaces, petroleum refineries, chemical complexes, etc.**—Includes coke ovens, and mining appurtenances such as tipples and washeries.
- **Other nonbuilding construction**—Includes all types of nonbuilding construction, not included elsewhere.





## APPENDIX B.

### Standard Industrial Classification Titles for Industry Groups and Industries

SIC code	Industry titles	SIC code	Industry titles
<b>15</b>	<b>BUILDING CONSTRUCTION—GENERAL CONTRACTORS AND OPERATIVE BUILDERS</b>	<b>17</b>	<b>CONSTRUCTION—SPECIAL TRADE CONTRACTORS—Con.</b>
<b>152</b>	<b>General Building Contractors—Residential Buildings</b>	<b>173</b>	<b>Electrical Work Special Trade Contractors</b>
1521	General Contractors—Single-Family Houses	1731	Electrical Work Special Trade Contractors
1522	General Contractors—Residential Buildings, Other Than Single-Family	<b>174</b>	<b>Masonry, Stone Work Tile Setting, and Plastering Special Trade Contractors</b>
<b>153</b>	<b>Operative Builders</b>	1741	Masonry, Stone Setting, and Other Stone Work Special Trade Contractors
1531	Operative Builders	1742	Plastering, Drywall, Acoustical, and Insulation Work Special Trade Contractors
<b>154</b>	<b>General Building Contractors—Nonresidential Buildings</b>	1743	Terrazzo, Tile, Marble, and Mosaic Work Special Trade Contractors
1541	General Contractors—Industrial Buildings and Warehouses	<b>175</b>	<b>Carpentry and Floor Work Special Trade Contractors</b>
1542	General Contractors—Nonresidential Buildings, Other Than Industrial Buildings and Warehouses	1751	Carpentry Work Special Trade Contractors
<b>16</b>	<b>HEAVY CONSTRUCTION OTHER THAN BUILDING CONSTRUCTION—CONTRACTORS</b>	1752	Floor Laying and Other Floor Work Special Trade Contractors, Not Elsewhere Classified
<b>161</b>	<b>Highway and Street Construction, Except Elevated Highways</b>	<b>176</b>	<b>Roofing, Siding, and Sheet Metal Work Special Trade Contractors</b>
1611	Highway and Street Construction Contractors, Except Elevated Highways	1761	Roofing, Siding, and Sheet Metal Work Special Trade Contractors
<b>162</b>	<b>Heavy Construction, Except Highway and Street Construction</b>	<b>177</b>	<b>Concrete Work Special Trade Contractors</b>
1622	Bridge, Tunnel, and Elevated Highway Construction Contractors	1771	Concrete Work Special Trade Contractors
1623	Water, Sewer, Pipeline, and Communications and Powerline Construction	<b>178</b>	<b>Water Well Drilling Special Trade Contractors</b>
1629	Heavy Construction, Not Elsewhere Classified	1781	Water Well Drilling Special Trade Contractors
<b>17</b>	<b>CONSTRUCTION—SPECIAL TRADE CONTRACTORS</b>	<b>179</b>	<b>Miscellaneous Special Trade Contractors</b>
<b>171</b>	<b>Plumbing, Heating, and Air-Conditioning Special Trade Contractors</b>	1791	Structural Steel Erection Special Trade Contractors
1711	Plumbing, Heating, and Air-Conditioning Special Trade Contractors	1793	Glass and Glazing Work Special Trade Contractors
<b>172</b>	<b>Painting and Paper Hanging Special Trade Contractors</b>	1794	Excavation Work Special Trade Contractors
1721	Painting and Paper Hanging Special Trade Contractors	1795	Wrecking and Demolition Work Special Trade Contractors
		1796	Installation or Erection of Building Equipment, Special Trade Contractors, Not Elsewhere Classified
		1799	Special Trade Contractors, Not Elsewhere Classified
		<b>6552</b>	<b>LAND SUBDIVIDERS AND DEVELOPERS, EXCEPT CEMETERIES</b>





# **APPENDIX C.**

## **Geographic Divisions and States**

### **NEW ENGLAND STATES**

Connecticut  
Maine  
Massachusetts  
New Hampshire  
Rhode Island  
Vermont

### **MIDDLE ATLANTIC STATES**

New Jersey  
New York  
Pennsylvania

### **EAST NORTH CENTRAL STATES**

Illinois  
Indiana  
Michigan  
Ohio  
Wisconsin

### **WEST NORTH CENTRAL STATES**

Iowa  
Kansas  
Minnesota  
Missouri  
Nebraska  
North Dakota  
South Dakota

### **SOUTH ATLANTIC STATES**

Delaware  
District of Columbia  
Florida  
Georgia  
Maryland

### **SOUTH ATLANTIC STATES—Con.**

North Carolina  
South Carolina  
Virginia  
West Virginia

### **EAST SOUTH CENTRAL STATES**

Alabama  
Kentucky  
Mississippi  
Tennessee

### **WEST SOUTH CENTRAL STATES**

Arkansas  
Louisiana  
Oklahoma  
Texas

### **MOUNTAIN STATES**

Arizona  
Colorado  
Idaho  
Montana  
Nevada  
New Mexico  
Utah  
Wyoming

### **PACIFIC STATES**

Alaska  
California  
Hawaii  
Oregon  
Washington



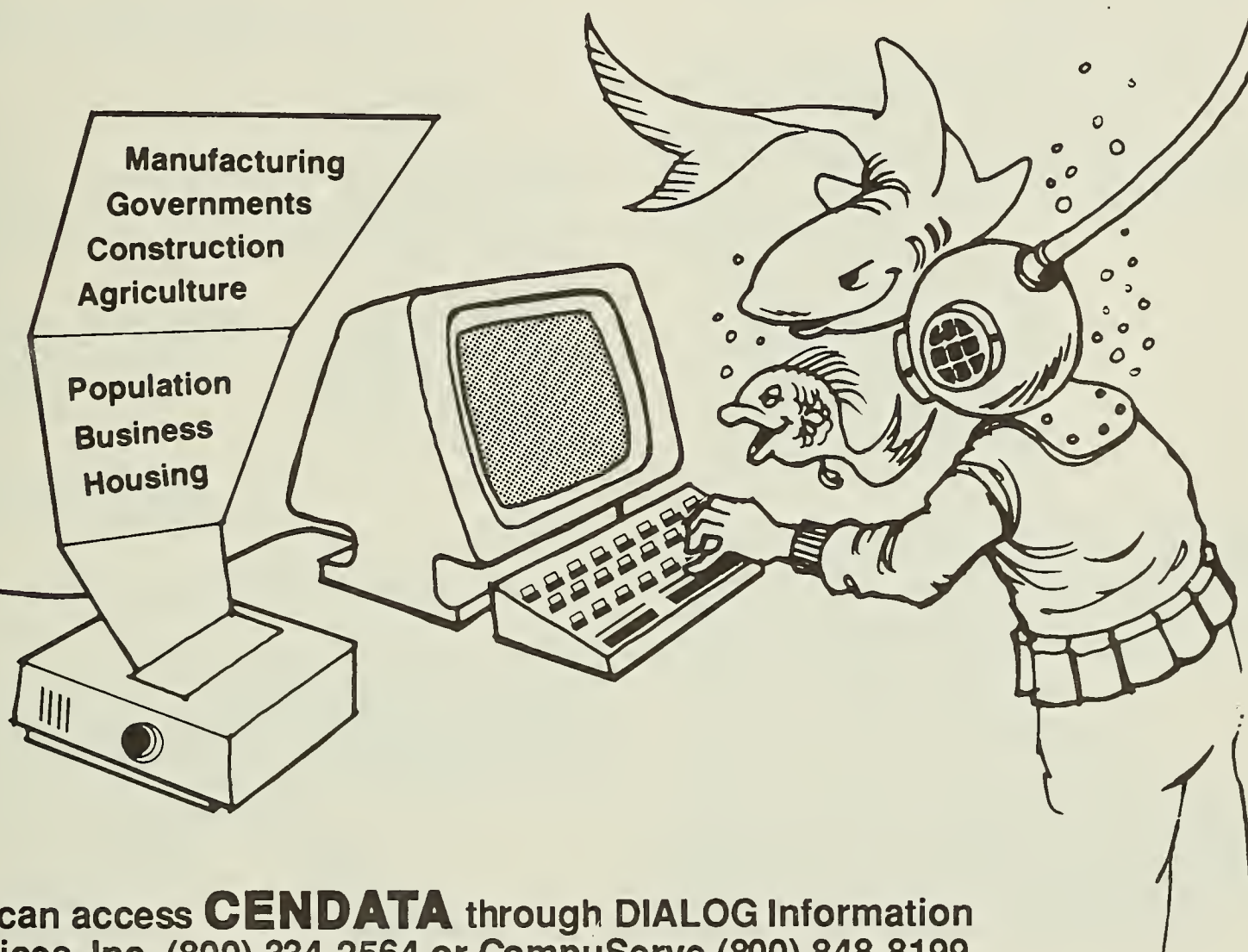


# WHAT'S YOUR LINE?

## It's ONLINE!

NOW whatever you do, wherever you go, we've got data for you.  
In more depth than ever—

**CENDATA™**—the Census Bureau's online system—instantly provides the facts you need for decisions in virtually every area. It covers everything from ingots to elections, from rental vacancies to retail sales, from median family income to milk cows in Minnesota.



You can access **CENDATA** through DIALOG Information Services, Inc. (800) 334-2564 or CompuServe (800) 848-8199. Or call the Census Bureau on (301) 763-2074 for more information.

Now key statistics are just a phone call away.





# PUBLICATION PROGRAM

## 1987 CENSUS OF CONSTRUCTION INDUSTRIES

The Census of Construction Industries is taken once every 5 years. The census covers all establishments engaged in construction, including:

- Building contractors
- Heavy construction contractors
- Special trade contractors (including plumbers, carpenters, painters, electricians)
- Land developers and subdividers

Data products in the Census of Construction Industries are issued in 4 publication series and in 3 other media:

- Printed reports [P]
- CD-ROM [C]
- Computer tape [T]
- Highlights online [+]

### Preliminary Industry Series (CC87-I-1(P) through CC87-I-28(P))

(Available November 1988 through May 1989) [P]

Twenty-seven separate industry reports and a United States summary report, providing national statistics for establishments with payroll. Statistics shown for 1987 include:

- Number of establishments
- Number of employees
- Payroll
- Hours worked
- Value of construction work done, by type of structure
- Selected operating costs

### Final Industry Series (CC87-I-1 through CC87-I-28)

(Available June 1989 through November 1989) [P] [C] [T] [+]

Twenty-seven separate industry reports and a United States summary report, providing statistics for the Nation and individual States on establishments with payroll. These reports update figures from the preliminary industry series (employment, payroll, value of construction, etc.) and provide measures of the following:

- Capital expenditures
- Inventories
- Industry profiles
- Assets
- Depreciation
- And much more

## Geographic Area Series (CC87-A-1 through CC87-A-10)

(Available January 1990 through March 1990) [P] [C] [T] [+]

Nine reports on the construction industries, representing each census geographic division, and a United States summary report. Regional reports provide detailed data for States and metropolitan statistical areas.

## Subject Report—Legal Form of Organization and Type of Operation (CC87-S-1)

(Available May 1990) [P]

One report providing selected national statistics for each industry by legal form of organization and type of operation. This report includes data for establishments with and without payroll. Data in this report include—

- Employment
- Payroll
- Value of construction work done
- Selected operating costs

## OTHER ECONOMIC CENSUSES REPORTS

The Census of Construction Industries is part of the 1987 Economic Censuses. These are conducted at five-year intervals in years ending in 2 and 7 and consist of seven separate censuses:

- Census of Retail Trade
- Census of Wholesale Trade
- Census of Service Industries
- Census of Transportation
- Census of Manufactures
- Census of Mineral Industries
- Census of Construction

...plus several related programs: enterprise statistics; information on minority-owned and women-owned businesses; and the Census of Outlying Areas, including separate economic censuses of Puerto Rico and other outlying areas. The Census of Agriculture and Census of Governments are conducted separately.

## HOW TO ORDER DATA PRODUCTS

Order forms for the specific reports and other data products may be obtained from Data User Services Division, Customer Services (Publications), Bureau of the Census, Washington, DC 20233. If you have any questions, call Census Customer Services 1-(301)-763-4100.

CB/Bureau of the Census Library



5 0673 01038514 7

CC87-I-17

Floor Laying and Other Floor Work  
Special Trade Contractors, Not Elsewhere Classified

1987 Census of C

For R

Not to be tal

Industries